Industrial Equipment News

FOUNDED 1933

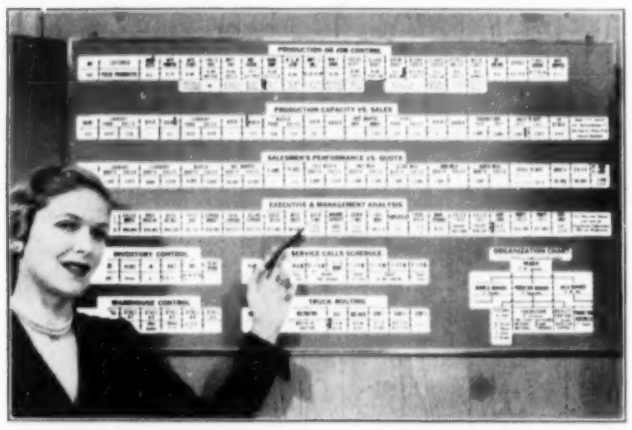
ORIGINAL REPORTER OF *What's New* IN EQUIPMENT, PARTS, MATERIALS

AFFILIATED WITH THOMAS REGISTER OF AMERICAN MANUFACTURERS

If you write maker identify as **IEN - 12001**

RECORD KEEPING . . Visual board accumulates data for operation control

Source: METHODS RESEARCH CORP.
440-44 Mosel Ave., Staten Island 4, N. Y.



Ask for literature, "If This is Your Business"

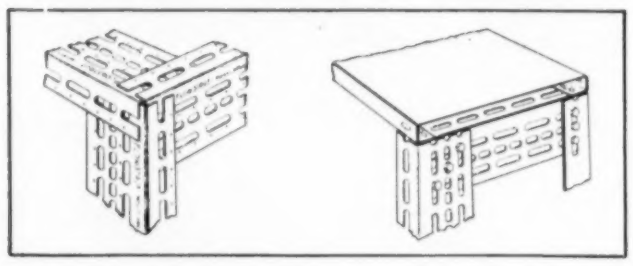
Holding grooves for 650 cards, each measuring ⅞ by 1½ in., are stamped in a steel sheet that is permanently riveted to a Masonite back board in this new Flexi-Trol board. The unit measures 42 in. in width by 24 in. in height. It is finished in gray and is framed in polished aluminum. Hinged hanging hooks are riveted to the rear at the upper corners. They can be folded out of the way when the board is employed on a table. A hinged metal cover can be specified in the Deluxe Model.

The small cards will hold 5 typed lines or about 14 words. Larger cards can be made in multiples of the small one to meet given requirements. Each board is set up to answer a particular user's questions. The standard unit lists at $57.50 with 1,000 of the small cards. The Deluxe design lists at $67.50. Additional cards are $6.50 per 1,000 for less than 3,000. List is $5 per 1,000 for 3,000 or more.

If you write maker identify as **IEN - 12002**

FABRICATING . . Steel angle and panels to build shop structures

Source: SHERBURNE-WARREN CORPORATION
23 Leonard St., Dept. IEN, New York 13, N. Y.



Illustrated data in Publication 184

Flowstrut trade names new perforated steel angle with which a wide variety of structures can be fabricated. Shelving, racks, overhead supports for lighting, ceilings, electric duct are examples. The company also can supply formed panels and panel stiffeners, the former in four sizes from 9 by 36 in. to 12 by 48 in., the latter in 36 and 48-in. lengths. The angle is packaged in groups of eight 12-ft. pieces and 6 doz. $\frac{5}{16}$-in. bolts and nuts.

The angle is made of 14-gage steel with leg widths of 1½ and 3 inches. One leg carries a single row of slots on ¾-in. centers. There are three rows on the same centers in the other leg. Tee sections, channels, box sections, I-sections, Y-sections and H-sections can be put together. The angle can be cut by counting the ¾-in. space markings for a desired length. A 2-ft. horizontal span, with the short leg down and without cross bracing, will handle 630 pounds. This can be increased to 1,630 lb. with the long leg down. Angle is 30 cents per foot.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 12003**

RECORD KEEPING . . Electronic calculator to keep perpetual inventory

Source: REMINGTON RAND INC.
315 Fourth Ave., Dept. IEN, New York 10, N. Y.

The old and the new

An old method of noting withdrawals from stock and additions to it and of keeping a record of items on hand in many classifications is shown to the left in the illustration. This method required the services of a great many individuals and is inherently slow. It has been obsoleted by new electronic equipment known as the Speed Tally. It consists of a key operated input unit, a record storage cabinet in which is a "memory" cylinder and a tape printer actuated by a punch tape. These units are shown to the right in the illustration.

The operator, at the key board, presses the proper keys to indicate the number of items and the classification on a withdrawal or an addition to stock. She can start another operation as soon as she completes one since the equipment operates with near instantaneous speed. When a count of the number in stock is required on one or more items, a punched paper tape is inserted in the tape reader unit and the tallies of those items specified on the tape are printed on a paper strip similar to that employed in an adding machine. The equipment is available to order for each specified installation.

If you write maker identify as **IEN - 12004**

PRESS . . Pneumatic impact unit to mark, stake, stamp, rivet, swage

Source: HEIDRICH-NOURSE COMPANY
629-33 E. 3rd St., Los Angeles 13, Calif.

Surge tank column

The main cylinder in this new impact press, Model 3-VS, is fitted with a stroke adjusting head at the top. It carries an anvil and integral chuck projecting through the bottom. Inside the cylinder a piston that is held up by air pressure until it is released by pressure applied to strike a blow. Then it descends to strike the anvil and drive the chuck forward by a small amount. Force of the blow can be regulated by adjusting air pressure from the shop line and by changing the length of piston stroke. Maximum force is 30,000 pounds.

The head assembly includes the main cylinder and a pneumatic-hydraulic supporting cylinder built into a bracket that is adjustable on a vertical column. Depressing a foot valve operates this cylinder to bring the main cylinder down through a 2½-in. movement. Action in the main cylinder is "triggered" when this downward movement brings the chuck held tools into contact with the work surface. The pneumatic-hydraulic stroke can be adjusted to limit rise from the work surface.

Maximum distance from the work table to the face of the chuck, by moving the assembly on the column, is 12 inches. The work table measures 12 by 8 inches. Throat dimension is 8½ inches. The machine measures 13 by 18 by 40 inches. Weight is about 200 pounds. The main cylinder bore is 3 inches. Maximum hammer stroke is 4 inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

NOVEMBER, 1953
VOL. 21 No. 11

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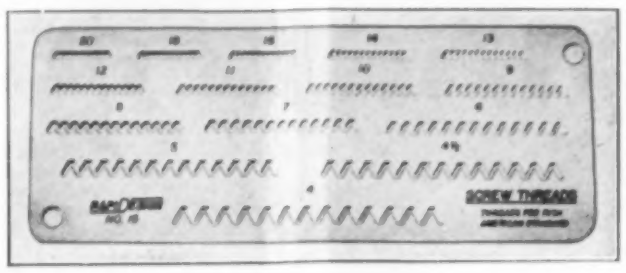
If you write maker identify as **IEN - 12005**

DRAFTING .. Screw thread template outlines 20 to 4 threads per inch

Source: RAPIDESIGN INCORPORATED
P. O. Box 592-A, Dept. IEN, Glendale, Calif.



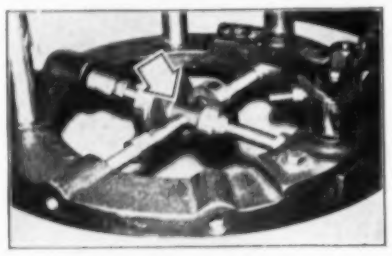
List price is $2.50

New template, No. 15, is made of transparent plastic and measures 2¾ by 6⅞ by 0.04 inch. It can be positioned on a drawing and selected screw thread outlines drawn rapidly and accurately. The range, from 20 to 4 threads per inch, takes in shaft diameters from ¼ to 4 inches. The cutouts are precise and smooth.

If you write maker identify as **IEN - 12006**

TESTING .. Pressure fixture checks pipe fittings for body leakage

Source: FERNHOLTZ MACHINERY CO.
8466-70 Melrose Place, Los Angeles 46, Calif.



For production use

Elbows, tees, Y-fittings can be secured in this new design of the Fern-Boaz testing machine in sizes from ½ to 2 inches. The fitting is gripped between pressure pads. Then the fixture is lowered into a bath of light oil and air pressure, at 80 to 125 lb., is introduced into the fitting. Bubbles in the oil indicate leakage in a fitting so it can be rejected for salvage or scrap. The assembly requires a floor area measuring 24 by 40 inches. Shipping weight is 575 pounds.

If you write maker identify as **IEN - 12007**

Concrete Mix K-20, initially developed by Babcock & Wilcox Co., 161 E. 42nd St., Dept. IEN, New York 17, N. Y., for use in industrial heating furnaces, can be employed to insulate above-ground propane and butane storage tanks against fire. It withstands temperatures to 2,000 deg. F. and protects the tank against overheating in the event of a nearby fire.

The material is a light weight insulating concrete consisting of a kaolin base and cement binder. It is applied with a cement gun to a thickness of about 1½ in. after the tank has been coated with a corrosion resistant paint and has been banded and then wrapped with galvanized steel wire mesh.

The bands are located at 2-ft. intervals and are fitted with clips to hold them out from the tank shell as a support for the wire mesh. The paint prevents corrosion of the shell due to condensation of moisture as the result of cooling when the liquid petroleum converts to gas during tank discharge.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 12008**

For quickly and easily pulling bearings, bushings, and liners on electric motors

. . . use the Duff-Norton remote controlled "Lo-Hite" Hydraulic Jack with detached independent pump. The ram when closed is only 4½ inches high, yet can safely move 30 tons 2 inches in any direction. The independent pumping mechanism is connected to the jacking ram by an 8-foot flexible rubber hose. Safe, sturdy, precision-built for trouble-free service, the "Lo-Hite" is winning new users everywhere.

Write to the world's oldest and largest manufacturer of lifting jacks for Bulletin AD-3M, The Duff-Norton Mfg. Co., P. O. Box 1889, Pittsburgh 30, Pa. Canadian plant—Toronto 6, Ontario.

DUFF-NORTON JACKS

"Giving Industry a Lift Since 1883"

If you write maker identify as **IEN - 12009**

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BALL BEARINGS

NEW DEPARTURE • DIVISION OF GENERAL MOTORS • BRISTOL, CONNECTICUT

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Almost had a pretty big blaze. Good thing there was a Kidde CO_2 Portable around. Picked it up, pointed the nozzle, pulled the trigger. That's all. No fire. Hands hardly dirty.

Kidde

Walter Kidde & Company, Inc.
1136 Main St., Belleville 9, N. J.

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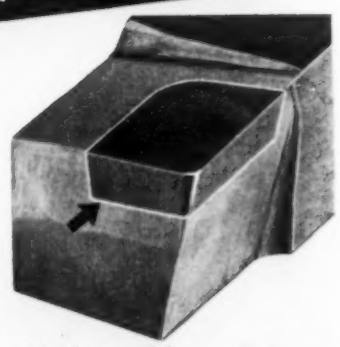
Where STRENGTH is a "must"

BRAZE WITH EASY-FLO NO. 3



For carbide tool tipping and other metal joining jobs demanding high strength plus shock-resistance, brazing with the low-temperature silver alloy EASY-FLO No. 3 is your answer. It's easy . . . it's fast . . . it's economical. It is recommended by leading carbide tip manufacturers . . . Get full details in BULLETIN 11-A . . . Call or write for a copy.

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Distributors in Principal Cities. In Canada: Handy & Harman of Canada Ltd., Toronto

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3500 Gallons

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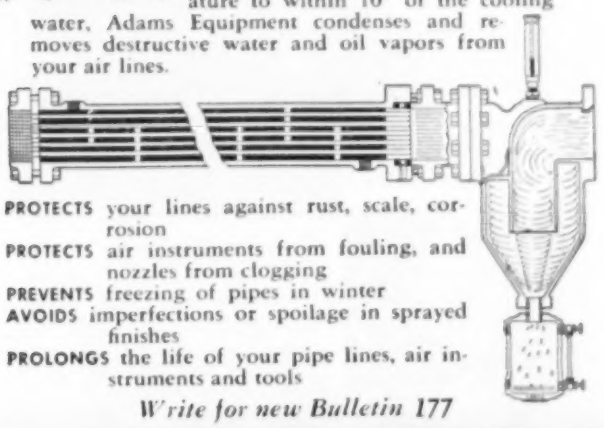
with ADAMS Aftercooler and Cyclone Separator

● Reducing compressed air temperature to within 10° of the cooling water, Adams Equipment condenses and removes destructive water and oil vapors from your air lines.



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R. P. ADAMS CO., INC. 219 E. PARK DRIVE BUFFALO 17, N. Y.

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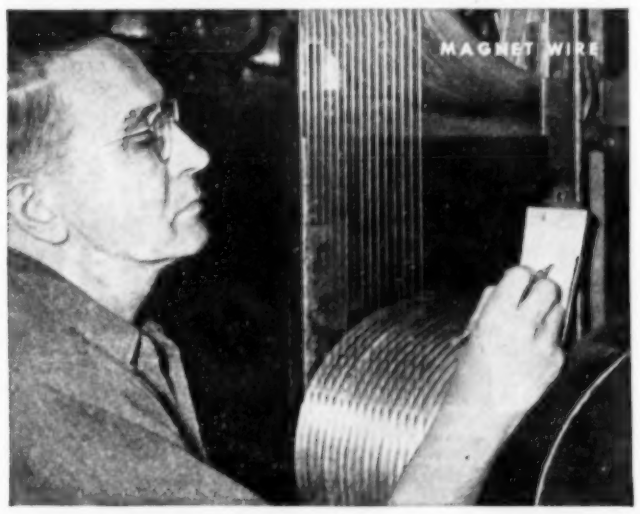

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This wire must pass 30 different tests in the toughest control program in the industry today. As a result, many customers have eliminated incoming inspection of ANACONDA Wire. *Anaconda Wire & Cable Company, 25 Broadway, New York 4, New York.* 53364

ANACONDA® —TODAY'S HEADQUARTERS FOR MAGNET WIRE

Class A: ENAMEL • FORMVAR • NYFORM • NYLON
Class B: VITROTEX® Class H: SILOTEX® *Reg. U. S. Pat. Off.

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SPROCKETS with
Split Taper
Compression
Bushings

No Reboring
No Welding

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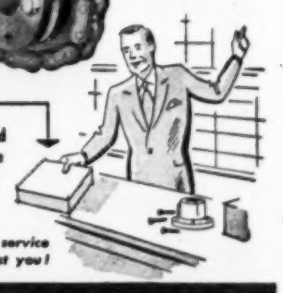
ALL CHAIN AND SPROCKETS IN PACKAGE STOCK



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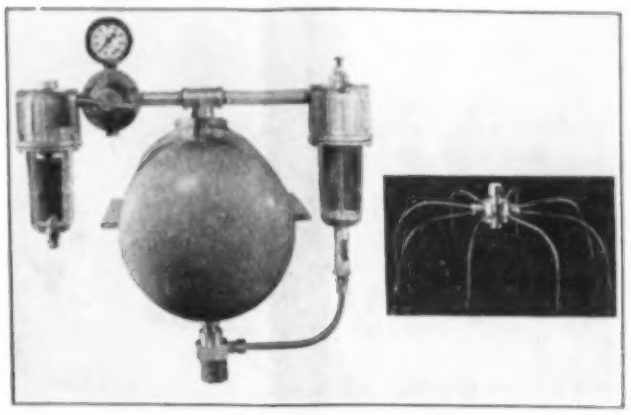
BROWNING MANUFACTURING COMPANY MAYSVILLE, KENTUCKY, U.S.A.

If you write maker identify as IEN - 12015

LUBRICATING . . Liquid coolant for pressure spray on tools and work

Source: AIR CONVERSION RESEARCH CORP.
4107 N. Damen Ave., Dept. IEN, Chicago 18, Ill.



Technical data upon request

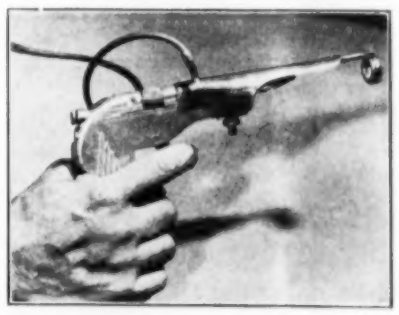
Aero-Coolant is a new concentrated coolant solution for dilution with water and application in the company's Lo-Jet spray equipment. The diluted solution issues from one or more spray heads, to a maximum of 16, and is directed at the tools as nearly as possible to the cutting point in the work.

The air borne mist expands as it issues from the pressure spray heads to produce a refrigerating action. Evaporation of the water content picks up heat from the tools and work. Quick removal of this heat suspended in the coolant vapor results in rapid heat transfer and keeps both the work and the tools cool. A temperature within 10 deg. F. of room temperature can be maintained in tools and work under normal machining conditions.

If you write maker identify as IEN - 12016

TESTING . . Halide leak detector for use with refrigerating equipment

Source: VELOCITY-POWER TOOL CO.
7500 Thomas Blvd., Dept. IEN, Pittsburgh 8, Pa.



For shop and service

New detector applies as an attachment on the Torch-O-Matic acetylene torch, previously described IEN-9999-52. It is employed, with the torch in operation, to color the flame if gas is leaking. The color ranges from a faint rose for a very small leak to an intense blue for a large one in a refrigerant line or unit.

The operator snaps the detector into position on the end of the torch so venturi effect, produced by the flow of acetylene gas through the torch barrel, creates vacuum in the rubber sampling tube which the operator employs to search for a leak. The air sample passes through the tube, mixes with the acetylene and passes to the flame. Laboratory test with Freon F-12 shows that the detector will respond dependably to concentrations as small as 200 parts per million.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12017

SAFETY EQUIPMENT FOR ALL INDUSTRIES

COVERS THE DANGER AREA

IPCO WELDING CURTAINS

Workers and passers-by are protected from harmful rays given off by welding operations. Also serve as a protective shield against flying chips and scale. Made of special flameproof and waterproof canvas—or asbestos—complete with eyelets for suspending on rod or pipe support.

WRITE FOR BULLETIN NO. 26

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INDUSTRIAL PRODUCTS COMPANY

2801 N. Fourth Street • Philadelphia 33, Pa.

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The Different Lubricant

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PUSH BUTTON CASTELL LOCKTITE HOLDER AND CASTELL IMPORTED LEAD

- One-hand clutch operation avoids touching lead, smearing fingers or drawing.
- Exclusive collet holds lead in bulldog grip, prevents it slipping back into holder.
- Clean, balanced, efficient for every type of drawing, sketching, rendering, coloring.

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the drawing pencil with the Master Degrees

REFILL IMPORTED FROM AMERICAN ZONE 100 ZEN 9030 2H

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1752 Illustrations
1057 Tables
803 Articles
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A LITTLE DOES A LOT

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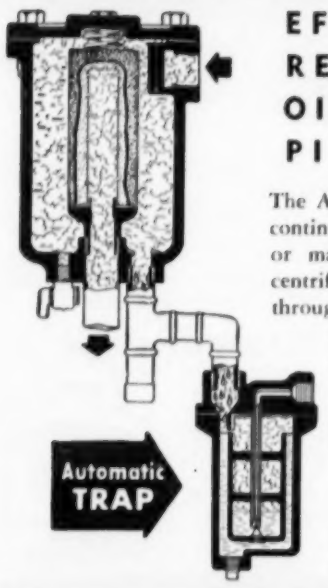
Poro-Stone Filtration
FOR COMPRESSED AIR



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PIPE SCALE

The Adams *Poro-Stone* Filter gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation.

Write for complete data Bulletin 177

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ADAMS *Poro-Stone* AIR FILTER

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CRANE PACKLESS DIAPHRAGM VALVES

Advanced design, plus Crane Quality throughout, makes Crane Packless Diaphragm Valves your safest buy for hard-to-handle fluids. The diaphragm serves one function only—sealing the bonnet. The seating member is a separate unit. That's how Crane provides positive shut-off, even in case of diaphragm failure. Crane design also gives you longer diaphragm life . . . easy operation . . . simplified maintenance at lowest upkeep cost.

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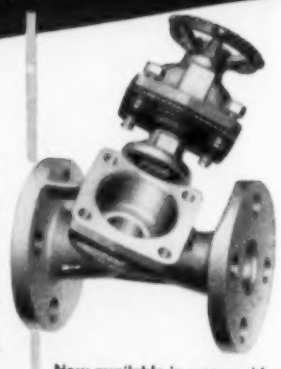

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Working pressures—up to 150 pounds, water, air, oil, or gas, 180° F. maximum temperature depending on valve size, material, and service.

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Industrial Equipment News

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VOL. 21 NOVEMBER, 1953 No. 11

Maintenance

Each time you add to the production and operating facilities in your plant you complicate further the already complicated problem of maintenance. Each shift is accompanied by new requirements for specialized maintenance skills.

Maintenance is to be the subject for study and discussion in Chicago from January 25 to 27 at the Fifth Plant Maintenance and Engineering Conference. Following is the Conference outline.

January 25, General Session, 10 A.M. to 12:30 P.M. Summation of principles, organization, planning.

Concurrent Sectional Meetings, 8 to 10 P.M.
S 1—Preventive maintenance, pro and con
S 2—Training people for maintenance work
S 3—Organizing people, policies, procedures
S 4—Sanitation methods, materials, control
S 5—Area compared with centralized maintenance
S 6—Work measurement, incentives, standards
S 7—Getting management's OK on the program
S 8—Problems in handling maintenance labor

January 26, Concurrent Round Tables, 9 to 11:30 A.M.
R 1—Inspection and upkeep of electric distribution
R 2—Maintenance of electronic control equipment
R 3—Equipment and handling methods in maintenance
R 4—Maintenance of materials handling equipment
R 5—Lighting equipment selection and upkeep
R 6—Lubricating methods, systems, lubricants
R 7—Maintenance with up to 25 maintenance men
R 8—Maintenance stores and storekeeping
R 9—Maintenance of mechanical service equipment
R10—Maintenance of plant buildings
R11—Maintenance of power plant equipment
R12—Janitor work, methods, techniques, organization
R13—Maintenance in chemical plants
R14—Maintenance in breweries and distilleries
R15—Maintenance in food and food packaging plants
R16—Maintenance in paper mills and product plants
R17—Maintenance in petroleum refining plants
R18—Maintenance in sheet metal plants
R19—Maintenance in steel mills
R20—Maintenance in textile mills

Concurrent Sectional Meetings, 2:30 to 5 P.M.
S1, S2, S3, to be repeated and S4 to be continued
S 9—Corrosion control and prevention
S10—Maintenance in hospitals, first aid rooms
S11—Card record and analysis systems
S12—Waste disposal problems and solutions

January 27, General Session, 9 to 11:30 A.M. Maintenance cost control and budgeting.

Concurrent Round Tables, 2:30 to 5 P.M. Repeats of discussions R1 to R20.

General Session, 8 to 10 P.M.
Round up of answers to all questions including those put in question boxes at the Conference.

If you have any questions at this time, we suggest you get in touch direct with L. C. Morrow, General Chairman, Plant Maintenance Show and Conference, Room 2700, 330 W. 42nd St., New York 36, N. Y.

W. E. Irish.

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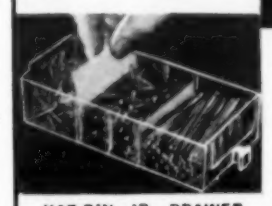

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J- 20	20	10¼"	9	7.95
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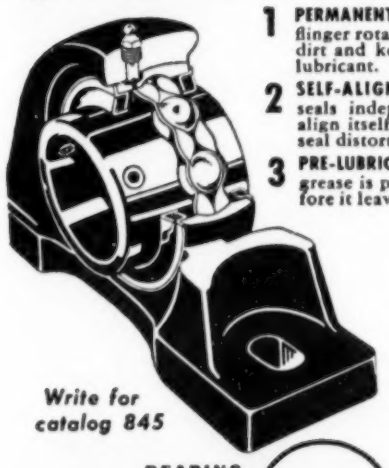
SEALMASTER BALL BEARING UNITS

3 Points of *Superiority*



1. **PERMANENTLY SEALED**—Felt-lined steel flinger rotating in labyrinth keeps out dirt and keeps in proper amount of lubricant.
2. **SELF-ALIGNING**—Bearing unit, with seals independent of housing, can align itself in any direction without seal distortion.
3. **PRE-LUBRICATED**—Proper amount of grease is put in bearing chamber before it leaves the factory.

- Flange Units
- Pillow Blocks
- Take-Up Units
- Cartridge Units
- Hanger Units

Write for catalog 845

BEARING DIVISION

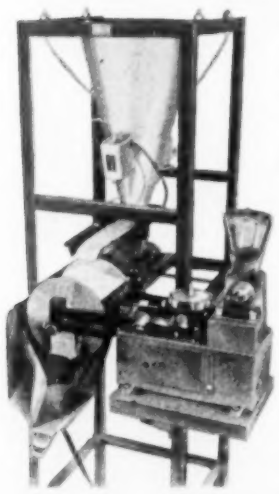
STEPHENS-ADAMSON MFG. CO.

Tellevel—Bin Level Controls · Car Loaders · Variable Speed Reducers · SealMaster Ball Bearings · Car Pullers · Winches · Saco Speed Reducers

231 RIDGEWAY AVE., AURORA, ILL.

If you write maker identify as IEN - 12029

NEW EXACT WEIGHT Net Weighing Machine . . .



Here is a NEW moderately priced, automatic weighing machine featuring fine sensitivity and accuracy . . . *visual indicator*, not present in most net weighing units . . . *fully automatic operation* . . . *Speed*, with very free-flowing materials (½ lb. to 1 lb. quantities), 25 weighments per minute . . . *Accuracy* down to ½ gram with free flowing materials. Speed and accuracy for heavier weighments and products harder to feed determined by product test . . . *Flexibility*, weighments from 1 gram to 10 lbs. with model shown . . . *Mobility* is possible if unit is mounted on casters for service from several hoppers . . . *Easy maintenance* due to elimination of unneccessary housings and enclosures. Write for details as to construction and what equipment comprises.

Exact Weight Scales

Better quality control
Better cost control

THE EXACT WEIGHT SCALE COMPANY

932 W. Fifth Avenue, Columbus 8, Ohio
2920 Bloor St., W., Toronto 18, Canada

If you write maker identify as IEN - 12030

BOILER . . Self-contained assembly, water coil design, oil and gas fired

Source: VAPOR HEATING CORP.
78-82 E. Jackson Blvd., Chicago 4, Ill.

Makes steam as needed

Model OKJ-4740 is new design of the Vapor - Clarkson steam generator in which a fuel oil burner nozzle is built into the metal body of the gas burner. Turning a switch from one point to the other opens or closes a motorized gas valve and a fuel oil solenoid valve so either gas or oil will be burned without interfering with continuous operation. A continuous spark and a pilot light assure positive ignition.

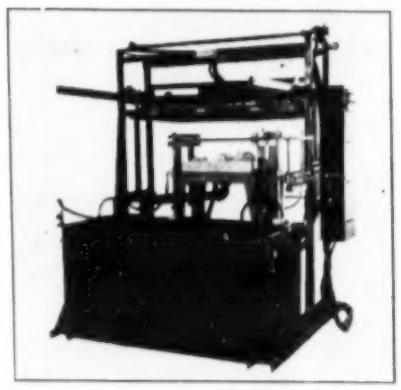
The new unit will develop its rated steam pressure of 300 lb. in about 3 min. from a cold start. It can be set to make 1,500 to 5,000 lb. of steam per hour. Variation in output is automatically controlled to the demand for steam in the outlet line. This control meters the fuel, the combustion air and the feed water in correct amounts to balance the load on the steam line at any particular time.

The boiler is equipped with standard protective devices including steam temperature limit, low water shut-off, two safety valves, overload relays and electronic equipment, all built in. Drive is by a 7½-hp. motor connecting to the blower, the feed water pump and the fuel oil pump. Assembly is in a space measuring 50 by 73 inches. Overall height is 80 inches. Weight empty is 6,000 pounds.

If you write maker identify as IEN - 12031

PLASTIC MOLDING . . Vacuum machine to form heat sensitive plastic sheet

Source: VACUUM FORMING CORP.
Dept. IEN, Port Washington, N. Y.



Take inexpensive dies

Model 50-20 is a new vacuum forming machine to handle thermoplastic sheets to 52 by 24 in. in length and width. It mounts a 60 by 30-in. platen and is equipped with Chromalox strip heating elements. The elements are adjustable for height above the platen. They provide temperature to 1,150 deg. F.

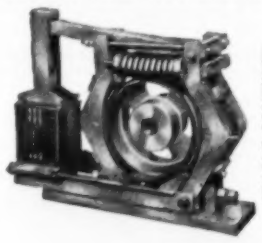
Vacuum is supplied by motor driven equipment mounted in the base in connection with a 100-gal. surge tank. Automatic cycle control is by means of four delay timers. The machine weighs about 2,500 pounds. It measures 70 by 68 by 88 inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

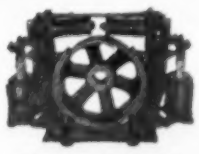
If you write maker identify as IEN - 12032

TROMBETTA SOLENOID CORP.

331 N. MILWAUKEE ST. • MILWAUKEE 2, WIS.



SINGLE SOLENOID
SB-333 BRAKE
10" DIA. 5" FACE
475 FT.-LBS.
CONTINUOUS DUTY



DOUBLE SOLENOID
SB-388 BRAKE
24" DIA. 10" FACE
2400 FT.-LBS.
CONTINUOUS DUTY

SB-300 LINE OF BRAKES

Sizes 2½" dia. x 1½" face to 72" dia. x 14" face, continuous rating range from 3 ft.-lbs. to 24,000 ft.-lbs.

8 SPECIAL FEATURES

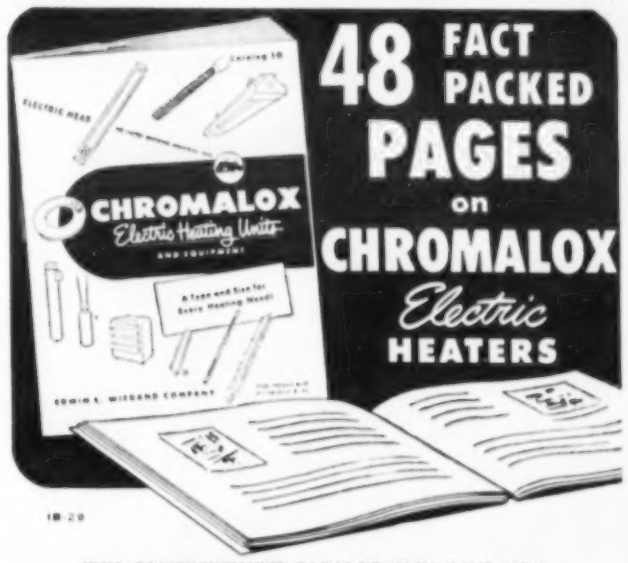
(1) Operated by long stroke, high power large capacity solenoids. (2) Only 50% of solenoid stroke is used to release the brake. The extra 50% is reserve to take care of lining wear. (3) They can be used for stopping as well as for holding loaded motors. (4) In double solenoid type, one solenoid operates the brake and the other is a spare assuring uninterrupted operation. (5) They are available for all voltages and frequencies alternating current. (6) Also for all voltages direct current series or shunt connections. (7) In shunt operation no series resistances, no discharging resistances are necessary. (8) They are available with oil immersed and explosion proof solenoids.

NINE LINES OF SOLENOIDS, RECIPROMOTORS AND SEMOTORS

See McGraw Hill's Prefiled Electrical Catalogs. Write for Additional Information.

If you write maker identify as IEN - 12033

48 FACT PACKED PAGES on CHROMALOX *Electric* HEATERS



THIS COMPREHENSIVE CATALOG MAY SAVE YOU VALUABLE TIME AND MONEY, HELP IMPROVE PRODUCTION

You'll find an efficient and economical answer to most of your heating needs in Catalog 50. It includes valuable application ideas and heat calculation data you'll find useful in your work. There are more than 15,000 standard Chromalox Units—most of them stocked for immediate application to your heating jobs.

Get your copy NOW from

Industrial Division
EDWIN L. WIEGAND CO.
7505 Thomas Boulevard
Pittsburgh 8, Pa.

See Chromalox Cartridge Heaters Advertisement, Page 11

CHROMALOX

ELECTRIC HEAT FOR MODERN INDUSTRY

If you write maker identify as IEN - 12034

PRESS STAMPING SMALL ROUND PARTS?

Use MODEL SH-58 CIRCULAR MARKER

Small round parts, cartridge cases, boosters, axles, bars and other similar products can be accurately and legibly marked with letters, figures or symbols—with this press style type holder. Type changing is quick and easy. Send for complete data today.

Write for New Catalog 100!

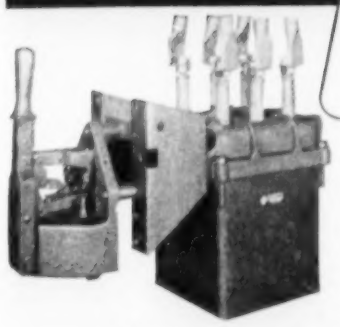
Mecco **SAFETY MARKING TOOLS** **M.E.CUNNINGHAM CO.**

1039 CHATEAU STREET, PITTSBURGH 33, PA.

If you write maker identify as IEN - 12035

Full Protection for Industrial Electric Service

ALLIS-CHALMERS INDOOR OIL CIRCUIT BREAKERS



Type E-47 oil circuit breaker rated 4160 volts, 600 amp, 25,000 kva interrupting capacity.

A COMPLETE LINE of indoor oil circuit breakers for 2300 to 13,800-volt service, up to 500,000 kva interrupting capacity is offered by Allis-Chalmers. These circuit breakers combine simplicity of design with reliability of performance. Each breaker is thoroughly tested before shipment. You can choose from a variety of mountings and accessories for automatic or manual operation.

Get complete information on the breaker for your requirements from your nearest A-C sales office, or write Allis-Chalmers, Milwaukee 1, Wisconsin.

A-3630

ALLIS-CHALMERS

If you write maker identify as IEN - 12036

METZGAR GRAVITY CONVEYORS

Life-time Construction

Means More for Your MONEY

16 YEAR'S Continuous Service

..at no maintenance cost because Metzgar carries the load on these sturdy bearings — ¼" steel balls (Hoover or equal) spinning in hardened labyrinth ball races.

Standard in all Metzgar wheel and roller gravity Conveyors.

Write for descriptive folder.

METZGAR CO. METZGAR CONVEYORS

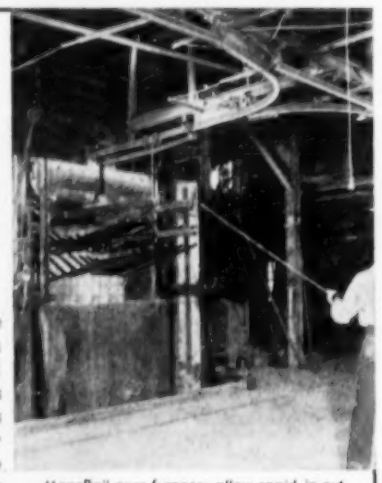
MFGRS. OF WHEEL & ROLLER GRAVITY & LIVE ROLLER CONVEYORS • POWER BELT-CONVEYORS • SWITCHES • ACCESSORIES & REEL DOLLIES

417 Douglas, N. W.

GRAND RAPIDS 4, MICH.

If you write maker identify as IEN - 12037

MONORAIL ELIMINATES REHANDLING



MonoRail over furnaces allow rapid in-out movement. Carriers made of special alloy withstand temperatures up to 1800° F.

From start to finish, one single MonoRail system provides a continual flow operation at this plant. The same racks loaded at the spray booths carry the ware into and out of firing furnaces. Many of the handling operations once unavoidable are now eliminated. Savings in labor alone has fully justified the investment in this system. And true of all American MonoRail Overhead Handling Installations is the extremely low maintenance cost.

Why not let an American MonoRail engineer give you all the facts about savings and advantages?

SEND FOR BULLETIN C-1

AMERICAN MONORAIL COMPANY — OVERHEAD HANDLING EQUIPMENT

13111 ATHENS AVENUE • CLEVELAND 7, OHIO

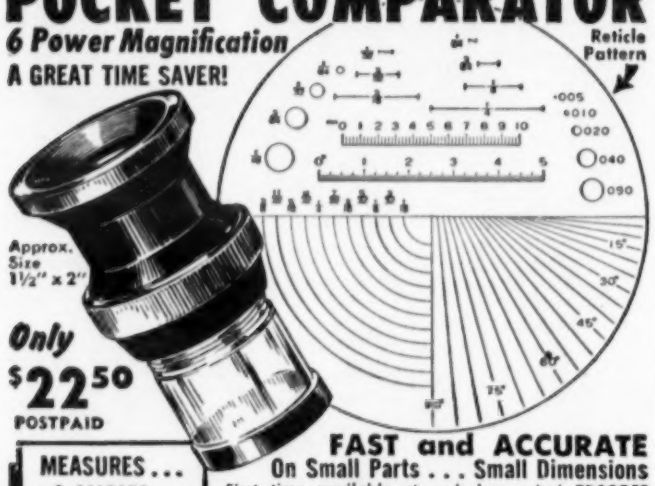
If you write maker identify as IEN - 12038

CHECK, MEASURE, INSPECT with this HANDY

POCKET COMPARATOR

6 Power Magnification

A GREAT TIME SAVER!



***Only* $22.50 POSTPAID**

MEASURES...
- ANGLES
- RADII
- CIRCLES
- LINEAR DIMENSIONS

In both decimal inches and millimeters

FAST and ACCURATE
On Small Parts . . . Small Dimensions

First time available at such low price! EDSCORP POCKET COMPARATOR. Fine, imported measuring magnifier—for fast, accurate inspection of intricate parts. Used to check layouts, machining on tools, dies, gauges — to check threads, chamfers, small holes. In optional work for checking flaws such as bubbles, seeds, scratches, pits and digs. For scientists — in determining width of spectograph lines. In photography—measuring and focusing at ground glass. Instrument comes in protective leather case. Many back guarantee.

WE'LL SHIP ON 10-DAY TRIAL OFFER *Attach Coupon to Company Letterhead*

Edmund Scientific Corp., 309 E. Gloucester Pike, Barrington, N. J.

Please ship EDSCORP Pocket Comparator Stock No. 30,061-AS on 10-day Trial Offer.

☐ Check is enclosed in amount $22.50. ☐ Bill on open account.

Name .....

Company .....

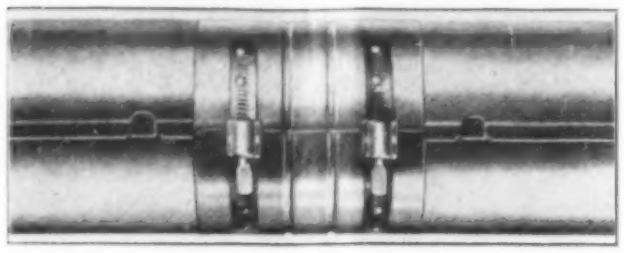
Address .....

City ..... Zone ..... State .....

If you write maker identify as IEN - 12039

VENTILATING . . Sheet metal pipe, 4 to 36 inches, employs clamp connector

Source: RALPH MFG. CO.
P. O. Box 188-A, Dept. IEN, Wadsworth, Ohio



Assembles quickly and securely

Speed-Lok trade names a new sheet metal pipe that is shipped with an open seam in nested 5-ft. lengths. It is available in aluminum or galvanized iron and carries mating tabs and sockets along its open edge. The pipe is closed in and locked in place when the Tite-Aire connector is placed and its two screws are tightened. The connector can be employed with any make of sheet metal pipe and is available in steel, galvanized iron, copper, Monel Metal, aluminum, in diameters from 4 to 100 inches.

If you write maker identify as IEN - 12040

HEATING . . Arc electrode disintegrates as it heats a work piece

Source: EUTECTIC WELDING ALLOYS CORP.
40-42 172nd St., Dept. P, Flushing 58, N. Y.

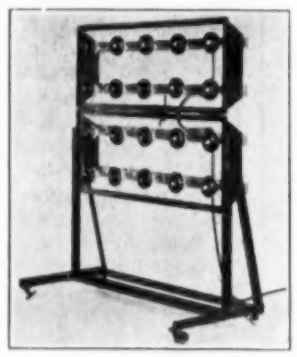
Applies with dc. welder

ThermoTrode trade names a new flux coated electrode. It is particularly suited to heat a work piece, for annealing, softening and to burn off paint, rather than to weld. The core metal disintegrates into a powder that can be brushed off. It does not deposit the metal as in normal arc welding. Three diameters are between ⅛ and 3/16 inch.

If you write maker identify as IEN - 12041

DRYING . . Portable infra-red unit mounts adjustable multiple lamp panels

Source: TRIPPE MFG. CO.
218-220 N. Jefferson St., Chicago 6, Ill.



Bulletin IRIC-953

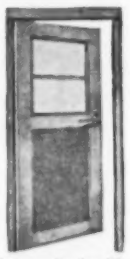
Five control circuits regulate the operation of twenty Type R-40 lamps in this new assembly of the company's Type IR-20 portable dryer. Each circuit has its own switch. The two hinged panels, each with ten of the lamps, are mounted on a structural support fitted with casters. Width measures 54 inches. Height is adjustable to 74 inches. The upper panel can be set at a desired angle with vertical. Current input is 17 amp. or 3,760 watts.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12042

Strong - Sturdy
TRUSCON INDUSTRIAL STEEL DOORS

These strong durable units are practically indestructible. They are particularly adaptable for use in basements, rear entrances, boiler rooms, fire exits and similar locations in factories, hotels, apartments, schools, churches, shops, warehouses, filling stations and stores. Swing Type Doors are furnished with heavily reinforced pressed steel door frames, prepared for Truscon standard door hardware.



Truscon Swing Type Steel Doors

Stiles and rails are made of pressed steel tubing with continuous lock seam. All corners are carefully fitted, substantially reinforced, and welded solidly. The large size of the 16 gauge tube, 1¾" x 5", provides approximately 14" of continuous welding around the perimeter — thus insuring permanent rigidity and complete elimination of sagging.

Swing doors may be equipped with either lever latch or cylinder lock hardware. Slide doors have hasp and staple hardware.

Truscon Slide Type Steel Doors

FREE BOOK!

Illustrated literature gives complete details and specifications on Truscon Industrial Steel Doors. Write for it.

TRUSCON® STEEL DIVISION
REPUBLIC STEEL CORPORATION
1094 ALBERT STREET • YOUNGSTOWN 1, OHIO

If you write maker identify as IEN - 12043

EXPERTS AT STAMPINGS IN SMALL LOTS SHORT RUNS

Die costs about 15% of conventional tooling.
If you need 100 or 10,000 stampings
—mail us your prints

DAYTON ROGERS *Manufacturing Company*

MINNEAPOLIS 7, MINN.

If you write maker identify as IEN - 12044

NOW — Precision Balls of Synthetic Sapphire

These balls of synthetic sapphire, polished to within 20 micro-inches of sphericity, are resistant to wear, heat, and corrosion. In many applications they need not be lubricated.

Available in 1mm, 1/16 inch, ⅛ inch, and ¼ inch sizes, and in three surface finishes.

PROPERTIES

Coefficient of Friction	0.140
Hardness (Knoop)	1525-2000
Dielectric Constant	7.5-10
Modulus of Rigidity	21.5-27.5 x 10^6psi
Thermal Coefficient of Expansion at 50°C (per°C x 10^6)	5.0-6.7
Chemical Resistance	Unaffected by acids, dilute alkali.

Call or write any LINDE office for information on these balls or the other forms of synthetic sapphire.

LINDE AIR PRODUCTS COMPANY
A Division of Union Carbide and Carbon Corporation
30 East 42nd St. UCC New York 17, N. Y.
In Canada: Dominion Oxygen Company, Limited, Toronto

If you write maker identify as IEN - 12045

NEW! FAST! EASY!

PRINT FACSIMILE LABELS DIRECT TO CONTAINERS

Here's the new system that eliminates labels and the old stencil board—ink brush method of addressing and marking shipping containers. With the new Web-O-Print JC-3 hand printer and a Kustom-Kut (die-cut) stencil, you can print both facsimile label and shipping information direct to cartons or boxes *in one operation* . . . at the rate of 40 to 50 cases per minute!

Kustom-Kut stencils are pre-cut to print your label or form. Address and other variable information are typed in . . . stencil is quickly attached to Web-O-Print . . . label and address are then printed on container in a single movement.

Web-O-Printing is a fast, clean one-hand operation. Prints on rough and cylindrical surfaces. Leaves a sharp, compact, fade-proof and waterproof print. Can be easily blocked out for re-shipping.

FREE SAMPLE PRINT Write today for a sample print and information on trial offer! No obligation.

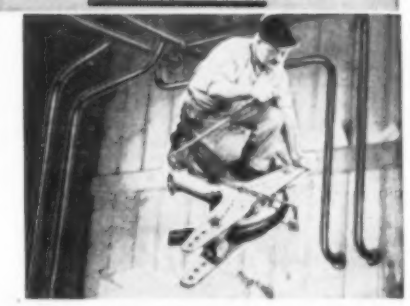
Weber LABEL AND MARKING SYSTEMS
Division of Weber Addressing Machine Co.
Dept. IE-4, Mount Prospect, Ill.

If you write maker identify as IEN - 12046

TAL PORTABLE BENDERS — Complete ALL Piping Jobs FASTER

SAVE ON

- Number of Fittings
- Elbows & Couplings
- Cutting, Threading
- Overall Costs



Install pipe and conduit *faster* at *lower cost* by reducing up to 80% the number of fittings or elbows and couplings otherwise needed. Save on cutting and threading. You can with a Tal, because Tal Portable Benders make any degree bend up to 180° in A *SINGLE* OPERATION WITHOUT SHIFTING THE PIPE.

No quesswork for offsets, long sweeps or any other bends. No experience necessary to make accurate, wrinkle-free bends right on the job. *No spoilage.* Bend indicator assures identical repeat bends without measuring. Learn today how you can earn more money and handle more jobs with a Tal Bender.

COMPLETE LINE OF BENDERS
For pipe up to *8 inch.*
For copper and thinwall tubing.
6-Way Hickeys — lifetime guarantee.

WRITE FOR THIS FREE BULLETIN

Bender, Inc. Dept. 2 Milwaukee 2, Wis.

If you write maker identify as IEN - 12047

Who's afraid of friction?

Ever wonder why Tide Water formulates over 300 industrial lubricants? The answer can save you many hundreds of lost lubrication dollars! Because the problems of friction are varied . . . we believe that each job requires a *specialized* lubricant, an oil or grease specifically designed for peak efficiency . . . at lowest cost. And we're constantly on the lookout for formulas that do an even better job. That's why we say: When it comes to selecting the proper lubricant—be specific. Ask your local Tide Water representative for the *one* Tycol lubricant that's *engineered to do the job!*

TYCOL — **TIDE WATER ASSOCIATED OIL COMPANY**
17 BATTERY PLACE · NEW YORK 4, N. Y.

Refiners and Marketers of Veedol . . . The World's Most Famous Motor Oil

If you write maker identify as IEN - 12048

New Safety! New Efficiency!

for ANY PULLING . . . PUSHING . . . LIFTING JOB

with the right **SIMPLEX HYDRAULIC EQUIPMENT**

Re-Mo-Trol PULLERS
Hydraulic Pumps and remote-controlled Rams for pulling wheels, gears, shafts, etc.; also pushing and lifting in any direction *from a distance.* Safe, smooth, powerful. 10 to 100 ton capacity units. Unique Center-Hole simplifies rigging.

SIMPLEX JENNY
Self-contained Hydraulic Pullers with famous Center-Hole for easy pulling, pushing, lifting. Rugged, versatile; 6 models, 30 to 100 ton capacities.

SIMPLEX HYDRAULIC JACKS
Sturdy, safe, efficient units to do any lifting job easy and fast. 8 models; 3 to 100 ton capacities. Also 10 and 25 ton models with toe lifts.

Get full information on the most complete industrial line of Hydraulic Jacking equipment; write for Bulletin: 53.

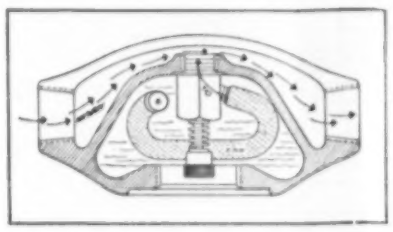
Simplex LEVER · SCREW · HYDRAULIC **Jacks**

TEMPLETON, KENLY & CO.
2527 Gardner Road • Broadview, Illinois

If you write maker identify as IEN - 12049

LUBRICATING . . Air operated oiler applies in line to pneumatic tool

Source: WRIGHT POWER SAW & TOOL CORP.
288 Longbrook Ave., Stratford, Conn.



Half and pint sizes

Oval shaped aluminum housing encloses a wick equipped oil reservoir in this new air tool oiler. It also encloses an air passage that passes the outlet from the wick and terminates at inlet and outlet connections at the housing ends. Oil is filled into the reservoir through a window equipped plug that can be removed or replaced by hand.

The wick controls the oil feed with the oiler in any position. An adjustment is provided to limit the feed. It can be set while the oiler is carrying pressure.

If you write maker identify as IEN - 12050

WIRE ROPE . . Nylon covered in range of colors, 3/64 to 1⅛ inch

Source: ROCHESTER ROPES INC.
52 Rochester St., Culpeper, Va.

Sample piece on request

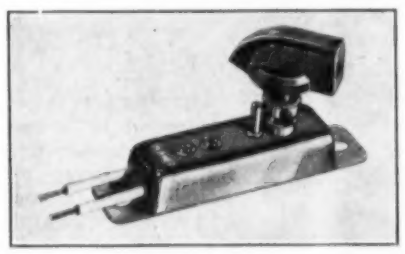
Lustrous colors are now available in the company's line of nylon covered wire rope, previously described IEN-9224-48. The colors are obtained by adding dyes to the nylon that is extruded solidly around the rope. The coated rope is smooth. It resists abrasion, kinking and corrosion.

Representative applications are in motor vehicle brake cables, speedometer cables, aircraft control cables, sash cord, operating lines on construction equipment, fishing lines, luggage handles. The nylon coating is not affected by temperature below 122 deg. F.

If you write maker identify as IEN - 12051

THERMOSTAT . . For surface mounting, 10 amp. on 110 volt ac., to 550 deg. F.

Source: GEORGE ULANET COMPANY
416 Market St., Newark 5, N. J.



Silver contacts

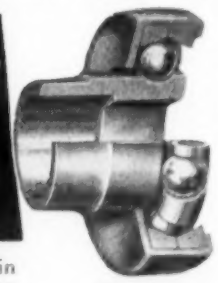
Strip type thermal element and the contacts for this new Model HK surface temperature thermostat are enclosed in a formed housing made of brass or steel. The element is insulated from the contacts and carries no electric current. The shockproof assembly can be mounted in any position.

Operating temperature is set by turning the knob on the unit shown in the illustration. A second design, Model HS, replaces the knob with a slotted screw. Dimensions are 2½ by ¾ in. in length and width. Mounting is on 3⅛-in. centers.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12052

SOMETHING *New* . . . in a bearing for conveyor rolls

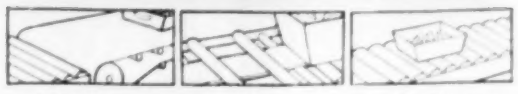


X-Series Bearing Assembly

Write for folder, describing in detail, this important new Logan development for conveyor rolls. This is a low-friction, extra quiet bearing, known as X-Series. Semi-precision construction yet virtually the same price as ordinary conveyor roll bearings. Note: 33⅓% less grade required on gravity lines. Write for details.

The most important bearing development for conveyor rolls in two decades.

DEVELOPED BY *Logan*

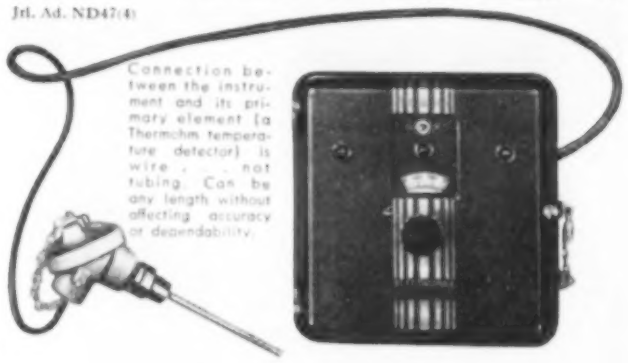


For Belt Conveyors — For Live Roll Conveyors — For Roller Conveyors

LOGAN CO., 276 CABEL ST., LOUISVILLE, KY.

If you write maker identify as IEN - 12053

Jtl. Ad. ND47(4)



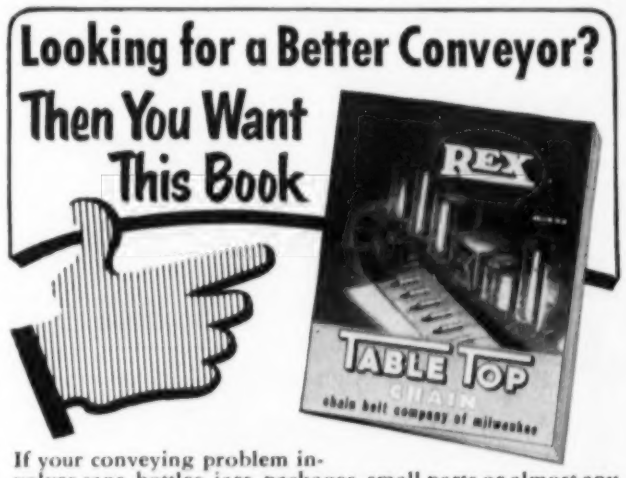
No-Maintenance Controller? *Well, almost . . .*

● For years at a time, your instrument maintenance men may never even see the inside of your Electromax Temperature Controllers, because these instruments need almost no maintenance. A pair of 7-watt 110-volt light bulbs, a pair of standard radio tubes operating at 10% of rating, and a plug-in, hermetically-sealed relay are the only replaceable parts. There's nothing to lubricate; no cells, ink or chart. Use it to 1000 F; get further information from our nearest office or 4905 Stenton Ave., Phila. 44, Pa.

LEEDS & NORTHRUP
instruments — *automatic controls • furnaces*

If you write maker identify as IEN - 12054

Looking for a Better Conveyor? Then You Want This Book



If your conveying problem involves cans, bottles, jars, packages, small parts or almost any other small unit, you'll want this new book on Rex TableTop® Chain. The book explains all the advantages of TableTop's simplicity . . . how it reduces maintenance . . . speeds production . . . helps cut conveying costs.

There are also sections on two other great conveying chains—Rex FlexTop® and Baldwin-Rex PlateTop®. Just use the coupon to send for your free copy today.

REX® Chain Belt COMPANY OF MILWAUKEE

Chain Belt Company — 53-102
4675 W. Greenfield Avenue
Milwaukee 1, Wisconsin
Please send me TableTop Chain Bulletin 53-60.

Name.....
Company..... *Dept.*.....
Address.....
City..... *State*.....

If you write maker identify as IEN - 12055

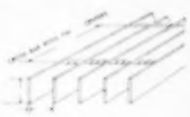
5 REASONS WHY BLAW-KNOX ELECTROFORGED® GRATING IS YOUR BEST BUY

- STRENGTH
- SAFETY
- LOW UPKEEP
- LONG LIFE
- SELF-CLEANING

We factory-fit this one-piece Open Steel Flooring to your dimensions for easy installation. You can cover dangerous open areas and add useful space inside and out.

USE COUPON FOR DETAILS AND PRICES

BLAW-KNOX COMPANY
GRATING DEPARTMENT
BLAW-KNOX EQUIPMENT DIVISION
P.O. Box 1198, Pittsburgh, Pa.



Please send prices on____sq. ft. Grating as per specifications marked at right.
Please send prices on___Type___Stair Treads___inches wide.
COMPANY_____
INDIVIDUAL_____
STREET_____
CITY_____ZONE_____STATE_____

BLAW-KNOX ELECTROFORGED® STEEL GRATING

If you write maker identify as IEN - 12056

VERSATILE 12" SWING LOGAN LATHE

FOR PRODUCTION, TOOL ROOM, MAINTENANCE, SCHOOL SHOP

Variable Speed Drive
Optional at no extra cost

With its massively proportioned ball bearing spindle, this 12" Logan combines wide speed range, sustained accuracy, and extreme rigidity on heavy cuts. Rugged accurate overall construction means lasting accuracy in production. The completely machined saddle and large, accurate dials are typical features adapting it to tool room work. With 1" collet capacity, 1⅜" spindle hole, and either 23" or 35" center distances, the 12" Logan can put new efficiency and more profit in most lathe turning operations.

Write for new catalog

SMOOTH On Heavy Cuts

With smooth power this 12" Logan hogs out a .375" cut from bar stock. Massive headstock and ball bearing spindle make heavy cuts easy.

ECONOMY In Production

Typical parts made on Logan Lathes and held to closest tolerances at minimum cost per finished part.

LOGAN ENGINEERING CO.
LAWRENCE AND LAMON AVENUES • CHICAGO 30, ILLINOIS

If you write maker identify as IEN - 12057

Exclusively TRICO Equipped

LARGE CHEMICAL COMPANIES INSIST ON SAFETY AND HIGH PERFORMANCE FEATURES OF TRICO

"Powder Packed" RENEWABLE FUSES

Only TRICO is specified because of the EXTRA SAFE "Powder-Packed" CUSTOM-BUILT renewal element. It's the quick, effective, arc choking qualities of powder packing that reduces to a minimum dangerous explosions, fire hazards and early destruction of expensive fuse casings. For safe, trouble-free service, install a trial set on your most troublesome circuit. See why it's TRICO PREFERRED.

WRITE FOR BOOKLET 206A 24 pages of interesting fuse facts. No cost or obligation.

Be Safe — Be Sure — Use TRICO

FUSE PULLERS

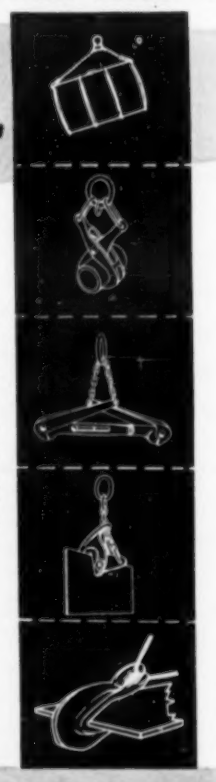
Speed up fuse replacement . . Prevent shocks, burns, possible death. Also handy for adjusting switch and fuse clips.

WRITE FOR BUL. No. 5

TRICO FUSE MFG. CO. MILWAUKEE, WIS.

If you write maker identify as IEN - 12058

PICK 'EM UP Faster..Easier



DOWNS SAFETY GRABS ...GRIP ANYTHING!

Yes we said anything—odd shapes, round, oblong, square or even loose objects such as bags or bundles. Best of all you save money on your handling problems while protecting employees.

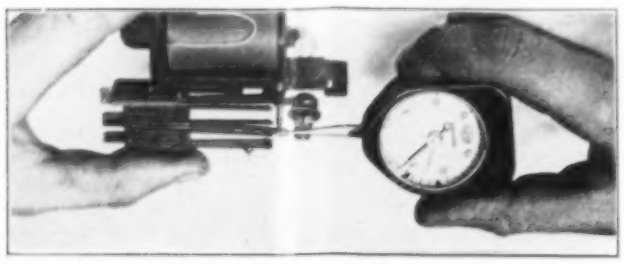
Downs Safety Grabs are engineered to provide a load safety factor greater than rated capacity plus a Bulldog grip that won't let go until you release the load. There's a Downs hook, grip, tong or sling to fit every handling problem. Write for free illustrated catalog 200 today!

DOWNS CRANE & HOIST CO.
MECHANICAL ENGINEERS
540 W. VERNON AVENUE • LOS ANGELES 37, CALIF.

If you write maker identify as IEN - 12059

GAGE . . Dial type instrument reads force to move small mechanisms

Source: GEORGE SCHERR COMPANY
200 Lafayette St., Dept. IEN, New York 12, N. Y.



Made in France

Brush pressure in small motors, force required to open spring contacts on relays, starting force for watch movements are representative applications for this new Precision Dynamometer. The unit is available in two models, one of which can be specified for any of five ranges minimum at 5 to 15 grams, maximum at 25 to 150 grams. The large model is in three ranges minimum at 25 to 250 grams, maximum at 100 to 1,000 grams. List prices are $9.85 and $33.75.

If you write maker identify as IEN - 12060

PAINTING . . Water white lacquer for brass, nickel, silver surfaces

Source: MAAS & WALDSTEIN CO.
2130 McCarter Highway, Newark 4, N. J.

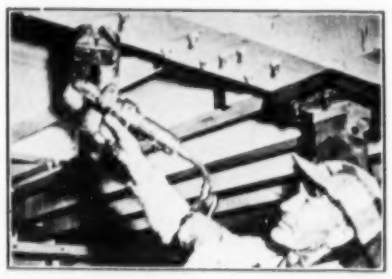
Protects luster

Durachem is a new lacquer to provide surface protection for products finished in brass, nickel, silver, without detracting from the natural metal color or luster. The bake finish coating resists attack by salt spray and perspiration. It will not yellow after prolonged exposure to sunlight or high temperature. Typical applications include builders' hardware, lipstick shells, vanity and cosmetic cases, pen caps. The material is available in a range of colors, as well as the water white, for decorative effects.

If you write maker identify as IEN - 12061

SHEARING . . Hydraulic tool angular design to trim bolts flush

Source: MANCO MFG. CO.
Grove & West, Bradley, Ill.



Guillotine tool

Capacity is to ⅞-in. mild steel bolts for this new angular cutter. It connects to the company's motor driven hydraulic power unit and is trigger lever operated. The head assembly, shown in the illustration, weighs 23 pounds. Cut back jaws are available to split nuts and to trim wire mesh when required.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12062

THERE'S A WAYNE COMPRESSOR JOB ENGINEERED TO EVERY "AIR NEED" IN YOUR PLANT

PRE-TESTED GUARANTEED FULL RATED AIR POWER ON EVERY JOB

Designed, engineered and built under rigid quality-control in Wayne plants, each compressor is "job-engineered" . . . you are assured of buying guaranteed air output for a specific job. Wayne Air Compressors are checked and pretested for volumetric efficiency, performance and operating tolerances. Every working part is designed for minimum maintenance and low operating costs. Next time you need an air compressor get a Wayne . . . get your dollars' worth in air output and in service.

THE WAYNE PUMP COMPANY
SALISBURY, MD. TORONTO, CAN.

Wayne
NATION WIDE SERVICE

INDUSTRIAL LIFTS • HOSE REELS • AIR COMPRESSORS

If you write maker identify as IEN - 12063

Cut
Assembly
Costs

Set up to 1,200 "Pop" Rivets an Hour

Tight-clinching, blind rivets speed production, cut costs

Here's a hollow, mechanically expanded rivet that makes a tight joint even in thin gauge metal sheet. Easily set with hand or pneumatic tools. No shearing or finishing required.

Made in tough, corrosion-resisting Monel®, hollow "Pop" rivets have approximately same strength, size for size, as solid aluminum rivets. Available in two types, and a wide range of sizes, in diameters to 3/16 in. Low cost, too. Just circle the handy reply card number; or write to the maker, United Shoe Machinery Corp., West Medway, Mass., for descriptive leaflet and prices.

INCO
THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street New York 5, N. Y.

If you write maker identify as IEN - 12064

STONEHOUSE SIGNS FOR ACCIDENT PREVENTION

TO KEEP PRODUCTION UP ...KEEP ACCIDENTS DOWN

Safeguard the worker against hazards and accidents—with the help of

STONEHOUSE SIGNS

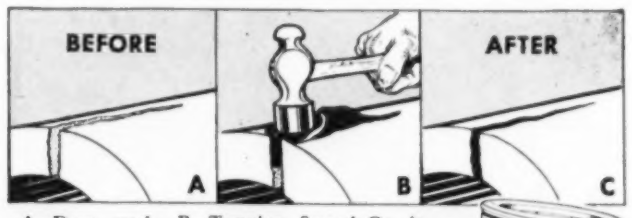
Made in accordance with "American Standards Ass'n Specifications for Accident Prevention Signs"—the only authentic standards.

Write for complete Catalog No. 9, showing hundreds of different stock-worded Accident Prevention signs. It's free on request.

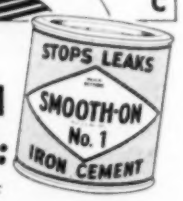
Stonehouse SIGNS, inc. MANUFACTURERS
Stonehouse Building · 842 Larimer · Denver 4 Colo.
"SIGNS SINCE 1863"

ACCIDENT PREVENTION SIGNS IN STANDARD COLORS AND DESIGNS

If you write maker identify as IEN - 12065



A—Deep crack. B—Tamping Smooth-On in. C—Crack completely sealed.



If You've Never Used SMOOTH-ON, *read this:*

Smooth-On No. 1 Iron Cement is a metallic powder which you mix with water to the consistency of putty. You tamp it, while still soft, into a crack or hole, making sure to force it against all surfaces. With Smooth-On you don't need to use heat or special gadgets. As it hardens, it expands slightly, clinging tightly in place. The repaired part is ready for use as soon as Smooth-On sets hard. Keep Smooth-On handy for both emergency and routine maintenance repairs. Get it in 7 oz., 1, 5, 20, or 100 lb. size. If your supply house hasn't Smooth-On No. 1, write us.

FREE 40-PAGE REPAIR HANDBOOK

Shows many industrial and home repairs made with No. 1 and other Smooth-On Cements. Leaks stopped, cracks sealed, loose parts made tight. 140 illustrations. Drop us a line for YOUR free copy.

SMOOTH-ON MFG. CO., Dept. 1
57 Communipaw Ave., Jersey City 4, N. J.
50-293

Do it with SMOOTH-ON
THE IRON REPAIR CEMENT OF MANY USES

If you write maker identify as **IEN - 12066**

SIZE-MARKED

Gear Grip Socket Head

CAP SCREWS

ONLY P-K is SIZE-MARKED. Prevents errors by "green" workers, helps "veterans" to speed assemblies. Saves time and wasted screws when sizes get mixed up.
GEAR GRIP prevents slips by oily fingers, speeds work.
ADDED SALES FEATURE for your product. Customers like the SIZE-MARK . . it simplifies reassembly after servicing.
IF IT'S P-K . . . IT'S O.K. For guaranteed quality in any type Socket Screw specify P-K. Samples free. Ask your P-K Distributor or write: Parker-Kalon Corporation, 200 Varick St., New York 14.

PARKER-KALON®
SOCKET SCREWS

If you write maker identify as **IEN - 12067**

Yes, We Can **Prove It!**

You too, can get *High Speed Action* on your assembly jobs–
Greater Accuracy at Far Lower Cost!

by Using these Modern Mechanical Helpers

DETROIT POWER SCREWDRIVERS *and Motorized* **HOPPER UNITS**

These popular, advanced machines offer a fast, dependable method of assembly definitely proved indispensable in other plants . . . In replacing slow, tedious manual handling, it has boosted production substantially, sustaining uniform results by eliminating human error . . . Whatever your feeding and assembling operations may be, our engineering experts will analyze your problem and come up with a practical solution . . . Give us details . . . Send sample assembly.

DETROIT POWER SCREWDRIVER CO.
2815 W. FORT ST. DETROIT 16, MICH.

If you write maker identify as **IEN - 12069**

INSULATING . . Fine fibered glass is preformed to apply on pipe lines

Source: OWENS-CORNING FIBERGLAS CORP.
100 Nicholas Bldg., Toledo 1, Ohio

No price increase

New insulation, for use at temperatures from sub-zero to 450 deg. F., is available with a canvas cover or a vapor seal jacket, the latter for cold pipe lines. It also can be supplied with a water proofed roofing felt jacket for outdoor use. The fine fibered material is durable, fire safe, non-corrosive, moisture resistant, resilient, and proof against attack by insects, mold growth or vermin. It replaces a similar previously developed insulation in which the fibers were comparatively coarse.

If you write maker identify as **IEN - 12070**

PACKAGING . . Plastic drum liner, double wall design encloses air space

Source: MEHL MFG. CO.
2055-59 Reading Road, Cincinnati 2, Ohio

Fits into the drum

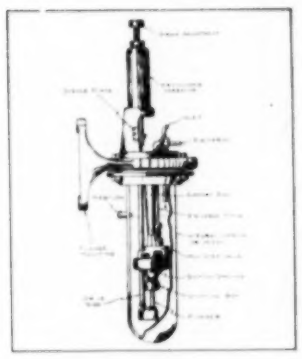
See-Safe Multiwall Airliner is a new polyethylene liner for use with fiber or steel drums. It protects the surface of the drum and can be employed to transport acids, alkalis, foods. Liquid or solid materials can be filled into it since it is chemically inert.

The double wall imparts mechanical strength to the liner. It also distributes shock and pressure through relative movement of the two walls. The air space acts as an insulator. The liner is available in 1.5 and 2 mil sheet thicknesses for a wall thickness of 3 and 4 mils. It is flat bottom design for use in 15, 30 and 55-gal. drums.

If you write maker identify as **IEN - 12071**

FEEDING . . Reciprocating pump operates submerged in dangerous fluids

Source: MILTON ROY COMPANY
1302 E. Mermaid Lane, Philadelphia 18, Pa.

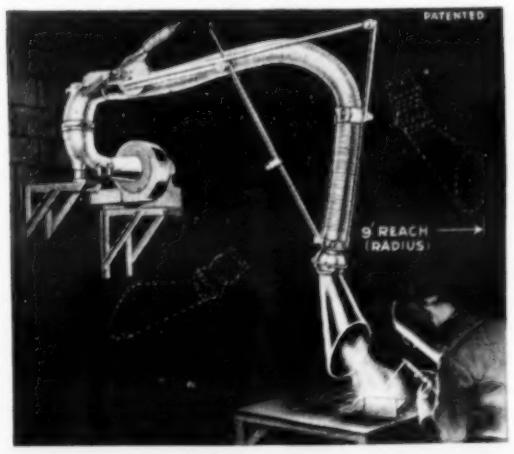


Adjustable stroke

New variation of the Mini-Pump line of adjustable feed reciprocating pumps has been designed to operate in vertical submerged position in a cylindrical sump. Only the driver and the discharge pipe are exposed. There is no need for packing on the pumping cylinder. The pump is designed to maintain a constant fluid level. Installation is by means of a vertical bracket with which the pump and the sump are supported. Capacity is to 3,200 ml. per hour. Pressure is to 1,000 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 12072**



RUEMELIN Fume Collector

Removes Welding Fumes at the Source . . .

Your welding department should be well ventilated, free from welding fumes. You can make it that way, quickly and efficiently, by installing a Ruemelin Fume Collector. It produces a powerful suction that draws out noxious gases, smoke and heat at the source. Guards employee health, resulting in less welder fatigue, therefore, greater plant output. Clears shop air with minimum loss of building heat. Covers maximum welding area vertically, horizontally and by circle swing. Shipped assembled, easy to install. 9 ft. and 15 ft. sizes (radius of swing). Write for Bulletin 37-D.

These Fume Collectors are particularly helpful in winter months when doors and windows are closed.

RUEMELIN MFG. CO.
3863 N. PALMER STREET MILWAUKEE 12, WIS., U. S. A.
MANUFACTURERS AND ENGINEERS — SAND BLAST AND DUST COLLECTING EQUIPMENT — WELDING FUME COLLECTORS

If you write maker identify as **IEN - 12073**

Small precision metal parts... Torrington makes them better, and for less!

FREE CATALOG — shows the great variety of small parts we can produce inexpensively and promptly. Send for copy today!

If your product uses small precision metal parts . . . pivots, pins, dowels, rollers, mandrels, needles, punches, etc. . . . send us your blueprints for a prompt quotation.

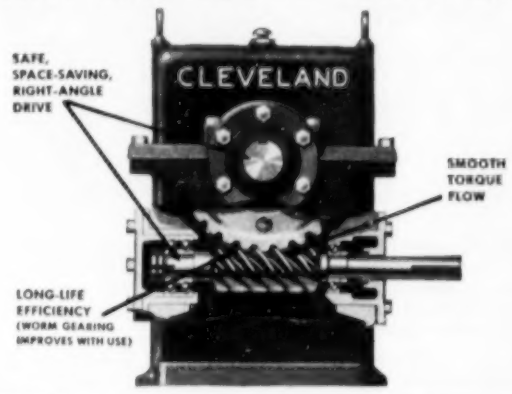
As a leading contract fabricator, TORRINGTON is equipped with the special machinery to produce in any quantity for quick delivery at low prices.

THE TORRINGTON COMPANY
Specialties Division
360 Field Street • Torrington, Conn.

Makers of
TORRINGTON NEEDLE BEARINGS

If you write maker identify as **IEN - 12074**

HERE'S A WORM GEAR DRIVE THAT IMPROVES WITH USE



EFFICIENCY in a Cleveland is high because bronze gear and nickel steel worm meet exact specifications precisely. Sliding action of worm on gear transmits power smoothly, quietly, with up to 50% increased resistance to shock and wear. Run in at the factory, a Cleveland drive actually improves with use. Right-angle design saves space.

Learn other Cleveland benefits! Write for Catalog 400. The Cleveland Worm & Gear Company, 3258 East 80th Street, Cleveland 4, Ohio.

THE CLEVELAND WORM & GEAR COMPANY
Speed Reducers

Affiliate: The Farval Corporation, Centralized Systems of Lubrication

If you write maker identify as **IEN - 12075**

NEED COPIES?
—produced in your own office

MODERN MIMEOGRAPHING — New equipment and supplies for the fast production of copies on a wide variety of paper and card stocks. A. B. Dick mimeograph products are for use with all makes of suitable stencil duplicating products.

MODERN SPIRIT DUPLICATING—Completely new A. B. Dick spirit duplicator produces 120 to 150 sharp copies a minute in 1 to 5 vivid colors from one master in one operation. Automatic feed—post card to legal size—16 lb. to 70 lb. stock.

MODERN OFFSET—A. B. Dick lithograph direct image plates and masters provide for (1) longer runs with sharp definition—(2) easier corrections — (3) more successful filing — (4) marked superiority in resistance to fingerprints.

(MODERN FOLDING—small, low-cost A. B. Dick electric folding machine saves time and money.)

Write Dept. IEN-53 for full information—or call the A. B. Dick Distributor listed under Duplicating Products in the classified section of your phone book.

A·B·DICK
THE FIRST NAME IN DUPLICATING
A. B. Dick Company • 5700 Touhy Avenue • Chicago 31, Illinois

If you write maker identify as IEN - 12076

NEED WHEELS ?

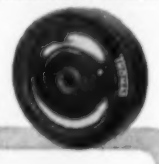
See

THOMAS TRUCK
of Keokuk

SEMI-STEEL

MOLDED-ON RUBBER TIRED

PNEUMATIC OR CUSHION



RESONITE

Advanced designs for today's increased speeds and greater hauling distances. A complete selection of sizes, in all types of wheels to meet your exact requirements. Capacity rated to help you choose the right wheel for the job. All wheels equipped with Hyatt roller bearings having hardened outer races to insure longer years of service. When you need wheels—see THOMAS, *first!*

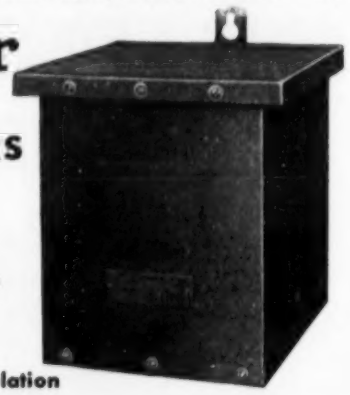
Send for Free Literature

THOMAS TRUCK AND CASTER COMPANY
440 Mississippi River
KEOKUK, IOWA

If you write maker identify as IEN - 12077

Wagner

DRY-TYPE TRANSFORMERS
help meet changing load demands



80° C Rise—Class B Insulation

Wagner dry-type transformers can deliver the right voltage close to the load wherever machines, portable tools or lights require voltage changes. They will save you money on insurance premiums. Fireproof vaults or other special protection are unnecessary for indoor installation.

When you use Wagner dry-type transformers, you reduce installation costs, reduce line losses, and eliminate long runs of secondary copper. These transformers are small in size, light, easy to install and easy to move whenever changes in plant facilities make it necessary.

These transformers are built in the Wagner Form W design which permits less weight per kva and space-saving installation. Available in sizes 3.0 to 100 kva, 600 volts and below.

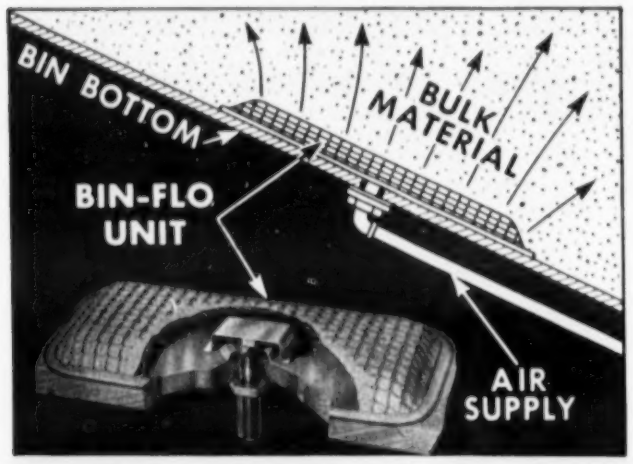
Wagner Electric Corporation EST. 1891

6414 PLYMOUTH AVENUE
ST. LOUIS 14, MO.

T53-7A

ELECTRICAL EQUIPMENT AND AUTOMOTIVE BRAKE PRODUCTS

If you write maker identify as IEN - 12078



BIN-FLO

USES SMALL VOLUME OF AIR AT LOW PRESSURE

KEEPS BULK MATERIALS MOVING

BIN-FLO units in bins, chutes, hoppers, etc., restore flow characteristics to dry, finely ground materials which tend to pack or bridge in storage. Types for all materials and conditions. No moving parts; simple installation; negligible operating cost; no maintenance cost.

BIN-DICATOR bin level indicator—"The Eyes of the Bin"—automatically reports levels of materials in storage; automatically controls filling machines; prevents waste.

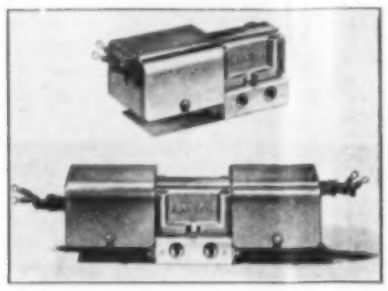
NEW 20-PAGE BOOK FREE

THE BIN-DICATOR CO.
13946-B Kercheval • Detroit 15, Mich.

If you write maker identify as IEN - 12079

VALVE . . Four way pneumatic single and double solenoid operated

Source: HANNIFIN CORPORATION
1108 S. Kilbourn Ave., Chicago 24, Ill.



The Pilot Master line

Control for small double-acting air cylinders on short stroke high speed applications, to 600 cycles per min., is the principal purpose for this new ¼-in. 4-way poppet type valve. It is a companion unit to the larger Pilot-Master Series BB-2 and BB-4 valves previously developed. Examples are switching mechanisms for conveyors, welder cylinders, clamping and work positioning cylinders on automatic and semi-automatic machines.

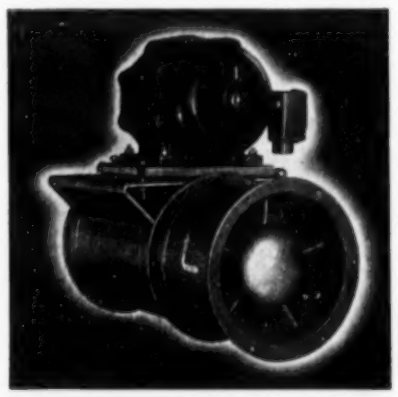
Model CC1-25 employs a single spring return solenoid on the valve stem. Model CC11-25 mounts two solenoids in opposed position on the stem. In the latter case, the valve will remain in the last set position until the opposing solenoid is energized to return it and "momentary contact" operation can be employed.

Both valve designs include separate manifolds for pipe or tube and conduit connections. The arrangement permits removal of either solenoid, or the valve, from the manifold without disturbing the line and circuit connections. Internal passages are larger than the connections so the valve can be specified for ⅜-in. instead of the standard ¼-in. pipe or tube.

If you write maker identify as IEN - 12080

VENTILATING . . Axial blower for air containing acids, alkalis, dust

Source: HARTZELL PROPELLER FAN CO.
1023-27 Roosevelt Road, Piqua, Ohio



Bulletin A-110

New design of the company's standard Vaneaxial blower employs a special duct section containing the guide vanes so the belt connected drive can be located on the negative-pressure side of the blower assembly. Clean air is drawn in through the belt tube, with this arrangement, and is passed over the bearings so they are protected against foreign matter in the air stream passing through the blower to delivery.

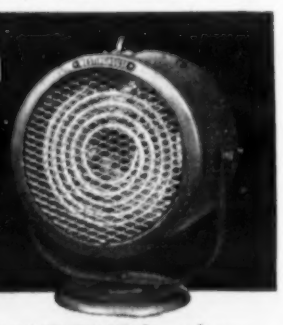
The range of sizes, from 12 to 54 in., is the same as in the original design. The blower will handle air at temperatures to 350 deg. F. without fear of premature belt or bearing failure. Type HVA is the designation.

The smallest 12-in. assembly rates 1,840 cfm. of free air at 2,540 rpm. It will handle 1,275 cfm. at the same speed against 1 in. of static pressure. The largest 54 in. assembly rates 38,800 cfm. at 566 rpm. on free air and 30,200 cfm. at 1-in. pressure.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12081

MORE HEAT with LESS SPACE use Westinghouse Air Heaters



Westinghouse COROX® and SPEEDTEMP forced convection air heaters are especially designed for space or area heating. They provide positive air circulation to maintain a comfortable room temperature without cold spots. For out-of-the-way, hard-to-heat places, here is the fast, efficient way to provide low-cost heat. Investigate these versatile heaters today.

FREE 26-Page Catalog—Tells you how to select the proper heater that will best fill your needs. Excellent information on heating insulated and non-insulated rooms. A definite help in your heater selection. Mark inquiry card for Catalog 28-020, or write Westinghouse Electric Corp., Industrial Heating Dept., Meadville, Penna.

J-10414

YOU CAN BE SURE...IF IT'S Westinghouse

APPARATUS DISTRIBUTOR WESTINGHOUSE

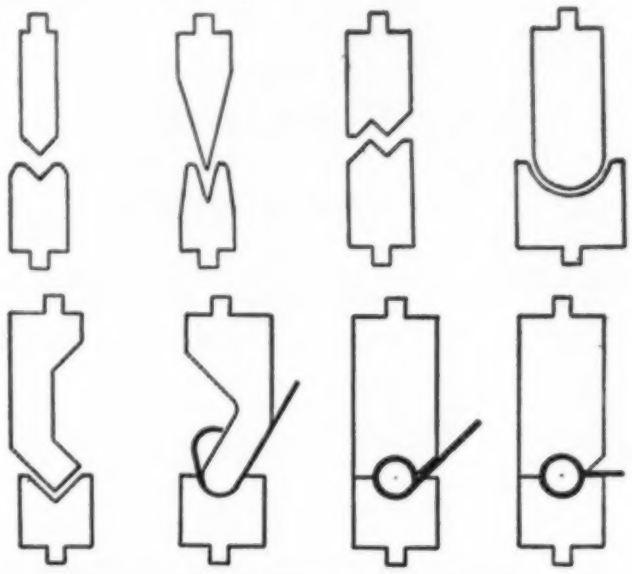
If you write maker identify as IEN - 12082

PRESS BRAKE FORMING DIES

PROMPT DELIVERY

Any Metal—any gage—to fit any make of machine

Here are a few examples:



RAFTER MACHINE COMPANY, INC.
SINCE 1917

249 Stephens Street **Belleville 9, N. J.**

COLD ROLL FORMING MACHINES AND GANG SLITTERS

If you write maker identify as IEN - 12083

CALL

Our stocks of Certified Quality Steel are large and becoming more complete. Quick, dependable service is assured.

RYERSON

PRINCIPAL PRODUCTS:

Bars • Structures • Plates • Sheets • Tubing
Allegheny Stainless • Alloy and Tool Steel
Inland 4-Way Safety Plate • Babbitt
Metal Working Machinery and Tools, etc.

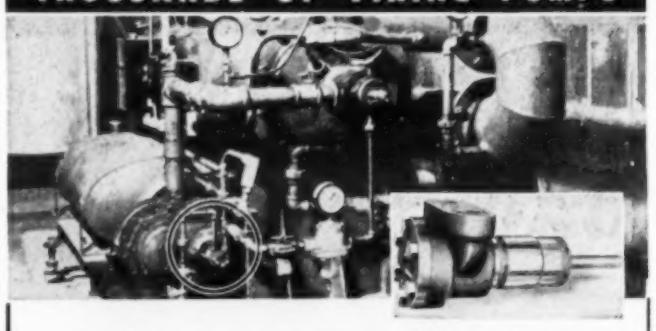
FOR STEEL

JOSEPH T. RYERSON & SON, Inc.

Plants at : New York, Boston, Philadelphia, Detroit, Cincinnati, Cleveland, Pittsburgh, Buffalo, Chicago, Milwaukee, St. Louis, Seattle, Spokane, Los Angeles, San Francisco

If you write maker identify as IEN - 12084

HOW ROOTS CONNERSVILLE USES THOUSANDS OF VIKING PUMPS



The Roots Connersville Blower Division, Connersville, Indiana, builds inert gas generators for many industries. Viking Pumps are standard equipment for pumping fuel oil, which is burned to produce cheap inert gas for preventing fires in explosive atmospheres. Uses range from gas and coke oven installations, steel works, oil refineries, chemical and rubber plants to fruit packing plants. In these applications thousands of Viking Pumps are being used with highly successful results.

Whether you produce original equipment, or have pumping problems in your own business, call on Viking to solve them. To start, write for bulletin 1803F.

VIKING AN HONORED NAME IN PUMPING

See Our Catalog in SWEETS

VIKING PUMP COMPANY
CEDAR FALLS, IOWA

If you write maker identify as IEN - 12085

Send for NEW Gage and Gage Inspection Control Procedure

Showing how McCaskey Gage Control gives split-second answers to such essentials as:

- . . . . where gage is . . who has it?
- . . . . when due for re-inspection?
- . . . . condition . . new-worn-modified?
- . . . . how many on hand?
- . . . . too few . . too many?
- . . . . where located in crib?

McCaskey Gage Control also includes history for each gage, central clearance records of each employee's gages, gage withdrawal order, etc. . . . all designed for complete control with speed, accuracy and minimum clerical work. Based on widely used McCaskey Tool Crib Control; both approved for Government contract requirements.

Write today for "McCaskey Gage and Gage Inspection Control" — Bulletin A-759 IEN — and complete details.

McCaskey INDUSTRIAL CONTROLS
PRODUCTION · INVENTORY · TOOLS · COSTS · MAINTENANCE
THE McCASKEY REGISTER DIV.,
Victor Adding Machine Co.
ALLIANCE, OHIO
Galt, Canada Watford, England

If you write maker identify as IEN - 12086

For concentrated HEAT for confined areas

CHROMALOX *Electric* CARTRIDGE HEATERS

SAFE • EFFICIENT • EASY-TO-INSTALL

Chromalox Electric Cartridge Heaters provide dependable heat when and where you need it at the temperatures you require. Dies, molds, platens, moving parts, etc. are quickly and accurately heated to controlled temperatures required for most efficient production. Lengths up to 40", diameters ⅜" to 3½", ratings 30 to 8750 watts.

GET CHROMALOX CATALOG 50 For Complete Details

Industrial Div., EDWIN L. WIEGAND CO., 7505 Thomas Blvd., Pittsburgh 8, Pa.

See Chromalox Electric Heaters Advertisement, Page 5

CHROMALOX
ELECTRIC HEAT FOR MODERN INDUSTRY

If you write maker identify as IEN - 12087

WIGGINS INST-O-MATIC COUPLINGS

QUICK-DISCONNECT COUPLINGS

3000 psi

Manual Quick Disconnect (Push-Pull Positive Action)

Automatic Quick Disconnect (Breaks Away at Pre-determined Weight Load)

For High Pressure HYDRAULIC FUEL and PNEUMATIC Systems

SIZES: 3/16" to 2-1/2"

Write for further information.

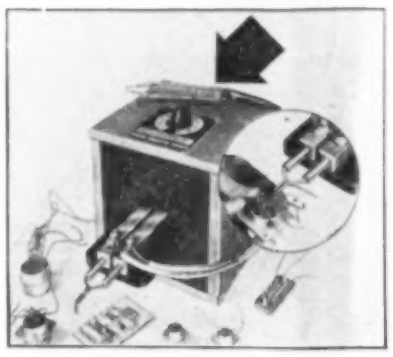
Wiggins

E. B. WIGGINS OIL TOOL COMPANY, INC.
3424 East Olympic Boulevard, Los Angeles 23, California

If you write maker identify as IEN - 12088

SOLDERING . . Resistance machine tooled for AN electric connectors

Source: JOYAL PRODUCTS INC.
113-17 Edison Place, Newark 5, N. J.



For production use

Hand held soldering tweezers have been added to the company's resistance soldering machine, previously described IEN-4268-53. Leads connect to the electrode bus bars at the front of the machine where they do not interfere with the normal use of the regular electrodes. The tweezers are glass insulated and the points can be shaped to fit any type of operation. The points are interchangeable and can be replaced. A two year supply costs about $1. When the tweezers are not in use they can be rested on the welder housing as shown in the illustration. Rating is 250 watts. Operation is on 110-volt ac. List price of the new tweezer assembly is $125.

If you write maker identify as IEN - 12089

LUBRICATING . . Soluble base oil coolant for metal cutting and grinding

Source: D. A. STUART OIL CO.
2745 S. Troy St., Chicago 23, Ill.

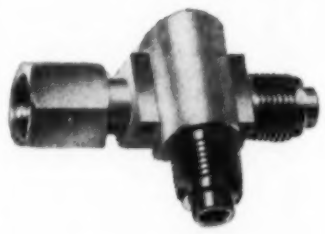
Dasco super soluble base

Dasco trade names new soluble cutting and grinding oil for use in boring, drilling, milling, reaming, sawing, turning operations. The oil is supplied for mixing with water in the ratio of 1 to 40, or more, except in hole broaching when the mixture should be 15 to 1.

If you write maker identify as IEN - 12090

DRIVE . . Flexible shaft adapter has two right angle shaft connections

Source: F. W. STEWART MFG. CORP.
4309-13 Ravenswood Ave., Chicago 13, Ill.



Helps shaft setup

Circle Ess is a new right angle adapter with a female connection for a single input and two male connections for output shafts at 90 deg. with each other. The three connections are threaded ⅝ in.-18. The internal gearing is in four ratios from 1 to 17 to 1 for right or left hand rotation. Drive ends are 0.104-in. square for shaft connection.

The body is made of aluminum. The gears are hardened steel. They ride on factory lubricated Oilite bearings. Weight of the new adapter is 4 ounces.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12091

"most lathe per dollar invested"

— Laurence Carl

exclusive design features put

CLAUSING 6300 12" HEAVY DUTY PRECISION LATHES

in a class by themselves

On any basis of comparison, ATLAS-CLAUSING 6300 Series are standout values for efficient 24-hour production . . . tool room or research work. 8 speeds, 50 to 1300 RPM — 12¾" swing over bed, 7½" over saddle, 24" — 36" — 48" between centers — headstock, apron, and quick change gears run in baths of oil. Get all the facts from your ATLAS-CLAUSING Distributor.

"The ATLAS-CLAUSING 6300 lathe is the most lathe per dollar invested available within its size range. Because of its in-built accuracy we are able to move spindle and nose fixtures from one lathe to another without affecting the accuracy of the product. It's a fine profit making machine." Signed — Laurence Carl, Carl Manufacturing Company

The heavy, thick-walled grey-iron headstock is fully enclosed and all moving parts run in a pumped bath of oil. Spindle is forged, precision-ground steel with 1⅛" bore and 1" collet capacity . . . turns on heavy duty Timken precision tapered roller bearings. Hardened and ground spindle nose L-00 is tapered key-locked type. Spindle can be reversed without danger of the chucks coming off.

Drive is underneath, with spindle pulley mounted "outboard" — replacing belts is a quick, easy job. Dual A-belt drive assures full transmission of power.

Quick-change mechanism is enclosed . . . gears and shafts run in bath of oil. Provides instant selection of 48 threads or feeds. Feeds from .00065" to .036" per revolution of spindle, and right and left hand threads from 4 to 224.

SEND FOR CATALOG TODAY!

CLAUSING DIVISION *Atlas Press Company*
11105 N. PITCHER STREET, KALAMAZOO, MICHIGAN
LATHES • DRILL PRESSES • SHAPERS • MILLING MACHINES

If you write maker identify as IEN - 12092

EVERY ENGINEER will want a copy of this BULLETIN

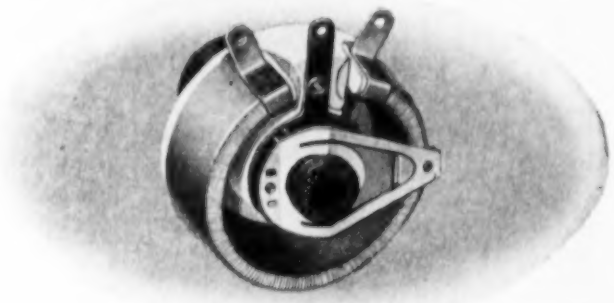
SEND FOR BULLETIN 210

It's easy to get the right cylinder for even the most special jobs when you use Hannifin's big handbook on PNEUMATIC CYLINDERS. 49 pages of helpful specification and engineering data, complete with diagrams and dimensions. The Hannifin line is complete! 6 standard mountings . . . many combination mountings . . . adjustable cushions at either or both ends . . . 2 types of pistons . . . bores to 16". Exclusive construction features assure trouble-free, efficient operation. Send for Bulletin 210. Hannifin also builds custom cylinders in quantity to special design. *Bring us your cylinder problems.*

HANNIFIN
1107 S. Kilbourn Ave., Chicago 24, Ill.
Air and Hydraulic Cylinders • Presses • Air Control Valves

If you write maker identify as IEN - 12093

TWO EXCLUSIVE FEATURES IN NEW VITROHM RING RHEOSTATS GIVE POSITIVE CURRENT CONTROL



MYCALEX insulating hub of Ward Leonard's new Ring Rheostats is *molded* to one end of the drive shaft to give more positive control and eliminate backlash.

Double ended, balanced spring steel contact arm, interlocked to the insulating hub, assures uniform contact pressure.

Stock types: 25R and 50R, 25 and 50 watts, 1 to 10,000 ohms.

Write Ward Leonard Electric Company, 33 South St., Mount Vernon, N.Y.

WARD LEONARD ELECTRIC CO.
Result-Engineered Controls Since 1892
RESISTORS • RELAYS • MOTOR CONTROLS • CHROMASTER

If you write maker identify as IEN - 12094

no. 1 BUY for handling INDUSTRIAL LIQUIDS!

Here's why a Tokheim is better!

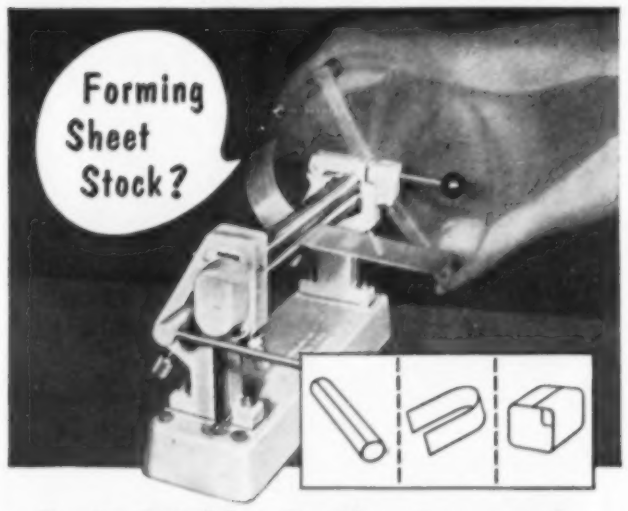
- ***More efficient!*** Even at low temperatures—double-action—no wasted motion.
- ***More useful!*** Handles many liquids of most any viscosity including oil and water.
- ***Safer!*** Eliminates many dangers common to other methods of transfer.
- ***Trouble-free!*** Not affected by ice, dirt, etc.—easily serviced.

Tokheim is tops with many manufacturers. And for good reasons! Rugged diaphragm construction. Low original cost. Dependable service-free performance. Delivers up to 20 gallons per minute. Offered with optional parts for handling a wide range of liquids. Available with hose or spout outlets for drum, skid tank or underground installations. Call your dealer or your Tokheim representative.

Write factory for literature

General Products Division
TOKHEIM OIL TANK AND PUMP CO.
Designers and Builders of Superior Equipment Since 1901
1654 WABASH AVE., FORT WAYNE 1, IND.
Canadian Distributor: H. Reeder, 205 Yonge St., Toronto

If you write maker identify as IEN - 12095



Do it Quickly, Easily, Accurately with a New DI-ACRO* ROLLER

A cam actuated idler roll—an exclusive feature—makes it possible to form any diameter circle in two operations. Also, bends can be located at any point along the edge of a sheet with straight sections on both sides of the bend. Special rolls available for forming round, other shaped stock. Eight models. Rated capacity to 16 gauge. Forming widths from 6 to 42 inches.

*pronounced Die-ack-ro

di-acro PRECISION METALWORKING MACHINES

SEND FOR 32-PAGE CATALOG

O'NEIL-IRWIN MFG. COMPANY
318 8th Avenue • Lake City, Minnesota

If you write maker identify as IEN - 12096

KEYNOTES.

"Hasten with that KEY-TITE, knave, the rain is almost on us."

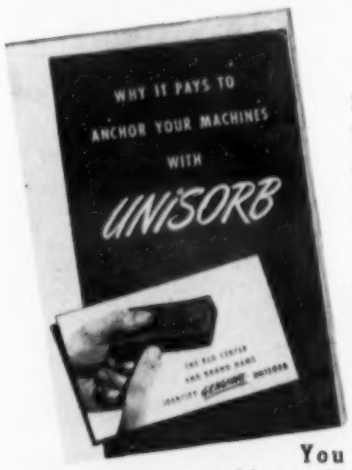
The perfect WATERPROOF sealer for pipe joints carrying water, gas, and low-pressure steam.

Write for free sample today!

SEALS TIGHT... BREAKS RIGHT!

A Product of KEY COMPANY
2651 McCausland • East St. Louis, Illinois

If you write maker identify as IEN - 12097



to mount your machines without...

bolts
lag screws
floor damage

Send for the UNISORB® Booklet

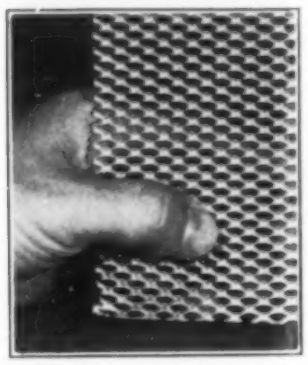
You reduce transmitted machine noise and vibration up to 85%, and you lengthen machine life, when you use UNISORB mounting pads. And there is no danger of the machines "walking" when mounted this easy way. Send for your copy of the booklet describing this modern way to mount machines.

RETURN COUPON TODAY!
the FELTERS company, 208 South St. Boston, Mass.
Please send me a copy of "Why It Pays to Mount Your Machines on UNISORB" — at no obligation to me.
Name.....Title.....
(Please Print)
Company.....
Address.....
City.....Zone....State.....

If you write maker identify as IEN - 12098

PERFORATED METAL . . Aluminum sheet for use on loud speaker grilles

Source: INSULINE CORPORATION
36-04 35th Ave., Long Island City 1, N. Y.



Sound comes through

Aluminum sheet is perforated or pierced, as shown in the illustration, to form an open mesh structure. It is finished in a non-tarnishing gold color in manufacture of this new sheet material. It can be cut with ordinary metal snips. Three sizes are 12 by 18 in., 18 by 24 in., 24 by 36 inches. List prices range from $2.35 to $9.35.

If you write maker identify as IEN - 12099

DRYING . . Desiccant filled bag absorbs moisture in closed containers

Source: WELLINGTON SEARS CO.
63-67 Worth St., New York 13, N. Y.

Fabric data upon request

Equipment, tools, appliances, clothing, are protected against corrosion and mildew by enclosing a supply of desiccant in a new fabric bag inside the sealed containers. The bag is made of Lantuck, previously described IEN-3724-49. It is a non-woven fabric of Geon vinyl plastic latices and cotton fibres.

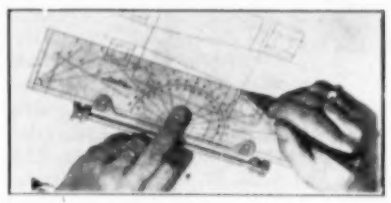
The latex is added as a binder saturant to a web formed of the fibers randomly and evenly distributed in the manufacturing process. The combination is then dried and run through a calender to seal the binder and fibers together and to provide a smooth surface and the required gage.

The finished fabric is supplied in 40-in. widths in rolls. It is slit to the required size, is imprinted with the name and necessary data and sewn into finished form. The desiccant absorbs moisture through the bag because of the latter's ability to "breathe". It can be reactivated by placing it in an oven to drive out the moisture.

If you write maker identify as IEN - 12100

DRAFTING . . Plastic device combines triangles, protractor, scales

Source: PICKETT & ECKEL INC.
3-7 S. Wabash Ave., Chicago 3, Ill.



Fast detailer

Paraline trade names new drafting device that combines the functions of triangle, protractor and scales in one adjustable unit. It measures 12½ by 3½ inches. It can be applied on any flat surface, such as a desk or table and can be carried in a pocket. Engineers' or architects' scales can be specified at a list price of $5.50.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12101

OILTIGHT LIMIT SWITCHES

Here is a new line of remarkably compact Allen-Bradley oiltight limit switches . . . streamlined for fine appearance and built for millions of failure free operations. The operating heads of these limit switches may be attached to the switch body in four definite locations, each 90 degrees apart. A large selection of pushrods, lever arms, and other actuating mechanisms is available. The name plate cover has a synthetic rubber gasket to exclude oil. Write for complete information.

Allen-Bradley Co.
1312 S. Second Street
Milwaukee 4, Wis.

Bulletin 802 Limit Switch with roller lever.

ALLEN-BRADLEY QUALITY LIMIT SWITCHES

If you write maker identify as IEN - 12102

LEVIN® MICRO-DRILL PRESS

for holes as small as .002"

Designed to hold small drills in precision collets. Absence of a sliding quill guarantees extreme sensitivity with finger-tip control. A mounted ⅛" capacity drill chuck can also be used.

Write for Bulletin H describing the Micro-Drill Press and listing collet sizes. Louis Levin & Son, Inc., 782 E. Pico Blvd., Los Angeles 21, California.

If you write maker identify as IEN - 12103

LIKE AN **ATOM-IC EXPLOSION**

Just 1/32" (pinhole size) faucet leak

MUSHROOMS into ATOMIC WASTE

of approximately 95,000 gallons of water yearly—costing:

$24.14

@ $1.90 per M cubic feet

If a hot water faucet, then actual FUEL WASTED heating 95,000 gallons costs approximately:
$55.91 if coal (9679 lbs.)
$91.08 if oil (792 gals.)
$84.41 if gas (84,411 cu. ft.)

Above figures authenticated by Hackensack Water Co. and American Gas Association.

STOP this needless WASTE during today's MATERIAL and MANPOWER shortages with 'SEXAUER' "Easy-Tites" that outwear ordinary faucet washers 6-to-1, thus SAVING labor on 5 REPEAT repairs, PLUS water and fuel, while prolonging the life of SCARCE fixtures.

PAT'D.
"EASY-TITE" Faucet washers

...a modern laboratory triumph, are compounded from du PONT NEOPRENE (tested up to 300° F.) instead of rubber—to withstand DESTRUCTIVE HEAT common in present-day superheating water systems—that formerly broke down washer's structure.

Built like a tire with fabric re-inforcement

they resist the grinding, closing squeeze that SPLIT and MUSH ordinary washers out of shape...causing LEAKS.

Through combining NEOPRENE and FABRIC RE-INFORCEMENT they OUTWEAR ordinary washers 6-to-1 on hot or cold FAUCETS—thus you slash water, fuel and labor costs.

THE NEW 'SEXAUER' CATALOG,
Edition G, just out pictures over 2500 TRIPLE-WEAR plumbing REPAIR parts and Pat'd. Precision Tools. It's today's accepted buying guide for discriminating purchasing and maintenance personnel among thousands of top PLANTS, INSTITUTIONS and GOVERNMENT AGENCIES that rely on SEXAUER repair materials. *Send for your copy today!*

Then too, there's a SEXAUER TECHNICIAN within quick call from coast-to-coast, who offers a special SURVEY service that sets up a schedule of the exact replacement parts required for your particular plumbing fixture regardless of make or age and *without obligation.*

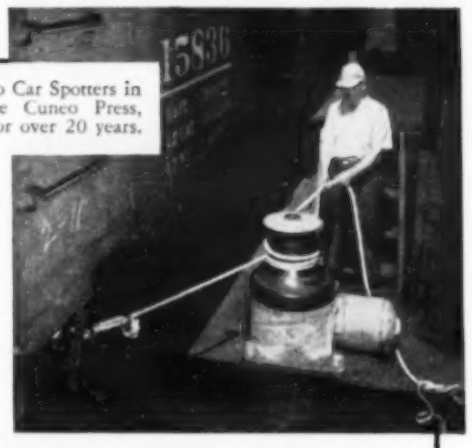
A postcard will bring him and your NEW Catalog promptly.

J. A. SEXAUER MFG. CO., INC., Dept. K-113
2503-05 Third Avenue, New York 51.

as advertised in THE SATURDAY EVENING POST

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

If you write maker identify as **IEN - 12105**



One of two Car Spotters in use at the Cuneo Press, Chicago, for over 20 years.

HERE'S a sure way to reduce demurrage charges

LINK-BELT CAR SPOTTER speeds spotting of cars for loading and unloading. That means reduced switching time and lower demurrage costs. And only one man is needed to move railroad cars. Add up these savings, and there's only one answer—lowered costs, money saved. Available in portable or stationary models for moving up to six loaded railroad cars.

LINK-BELT
CAR SPOTTER

Send for Book 2092—for facts on car spotters and drum type pullers.

LINK-BELT COMPANY: Plants: Chicago, Indianapolis, Philadelphia, Colmar, Pa., Atlanta, Houston, Minneapolis, San Francisco, Los Angeles, Seattle, Toronto, Springs (South Africa), Sydney (Australia). Sales Offices, Factory Branch Stores and Distributors in Principal Cities.

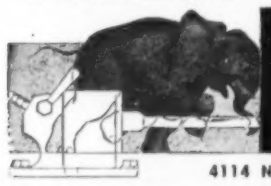
If you write maker identify as **IEN - 12106**

New AIR PRESS

One adjustable stand takes air cylinders (3" or 4" bore) single-acting or double-acting. Double-acting cylinder (shown) furnished with any length stroke from 0" to 36". The press illustrated has 4" stroke. Single-acting cylinders have maximum 4" stroke; return stroke by internal spring. Upper ram of double-acting presses has depth stop nuts and collars regulating the stroke exactly. Single-acting press has no upper ram nor depth stop adjustment. Mounting bracket permits vertical and radial adjustment. Solid steel column. Table is machine surfaced but not hardened, to allow mounting of special tooling.

NEW CATALOG READY!

The new Mead Air Power Catalog shows Mead's versatile new Column Presses, and full line of single and double-acting cylinders also air-operated Presses, Vises, Chucks, Hammers, Work Feeders — for faster, money-saving production. Write!



MEAD
SPECIALTIES COMPANY

4114 N. Knox Ave., Dept. EA-113, Chicago 41, Ill.

If you write maker identify as **IEN - 12107**

YOU can save money with

The Wallace VAPOR DEGREASER

- Electric
- Automatic
- Portable
- Production Size
- Insulated
- Galvanized

Only $257.50!

For quick, inexpensive cleaning of oils, grease, etc., from screw machine parts, die-castings, stampings; parts to be painted, plated, preserved or repaired.

No plumbing required—the portability of the Wallace DG-1 Degreaser makes it popular with large plants for "on the spot" cleaning jobs. Its low price brings it within the budget of the smallest shop.

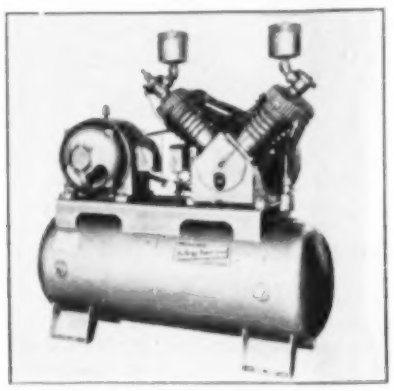
For free bulletins and prices, write *today*.

J. D. WALLACE & COMPANY
146 S. California Ave. Chicago 12, Ill.

If you write maker identify as **IEN - 12108**

COMPRESSOR . . Two stage air-cooled, 80 and 72 cfm., 100 and 175 pounds

Source: AMERICAN BRAKE SHOE CO.
95-99 Humboldt St., Rochester 9, N. Y.



Rating based on free air

Models BD 461 A and 461 B are new 15 and 20-hp. air cooled tank mounted air compressors. They are equipped with dual controls for automatic start and stop operation. They can be set to run continuously by turning a valve on the pressure switch manifold. In the latter case an intake unloader control maintains constant pressure. The line includes 22 models in various arrangements of compressor and receiver.

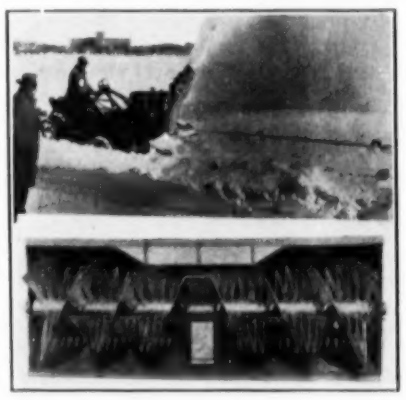
Insert bearings are employed on the connecting rod. Taper roller bearings are mounted at each end of the crankshaft. The pistons are made of aluminum. Patented V-ring oiling provides positive lubrication. Wafer type valves operate with removable seats. Cooling is provided by fan blades carried in the flywheel. Finned inter and after-coolers remove heat from the compressed air between the two stages and prior to delivery to the receiver.

Stroke length measures 5 inches. Cylinder bore is 5½ and 3 inches. Speed range is 400 to 900 rpm. and pressure range is 60 to 200 pounds. The receiver rates 120 gallons. Overall size is 72½ by 30 by 68 in. in the horizontal unit illustrated.

If you write maker identify as **IEN - 12109**

SNOW PLOW . . Engine driven, gathers and throws snow to one side

Source: WM. BROS BOILER & MFG. CO.
1055-59 Tenth Ave., S.E., Minneapolis 14, Minn.



Can load into truck

Snow is cut up and cast out by an engine driven gathering spiral that feeds to a central integral blower in this new Sno-Flyr plow. The spiral and blower assembly mounts horizontally in the moldboard of the plow with a top opening leading to a discharge pipe that can be rotated to either side. The moldboard mounts in place of the shovel in a tractor driven power shovel assembly. The chain connected engine, to drive the spiral and blower, mounts on the moldboard.

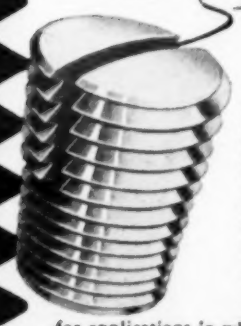
The arrangement permits lifting and lowering the moldboard for normal snow fall or for high drifts in the same manner as the power shovel is raised and lowered. Capacity, under normal conditions, is 3 to 4 ton per minute. Three models have work widths of 4½, 5½ and 6½ feet.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 12110**

ANNOUNCING
that we now manufacture and sell

Offset *Self-Locking*
SET SCREWS
—formerly marketed by Shakeproof Division of Illinois Tool Works



Now, more than ever, you can make Set Screw & Mfg. Co. your No. 1 source of supply for *self-locking set screws*. The recent addition of Offset Type Self-Locking Set Screws to our own widely successful ZIP-GRIP* and NU-CUP Self-Locking designs gives you a complete Self-Locking Set Screw range for solving vibration problems.

Setko Offset Self-Locking Set Screws are particularly suited for applications in which slotted screws are required. Their locking action results from springing or offsetting the sections on both sides, parallel with slot.

Write for new catalog sheet on Setko Offset Self-Locking Set Screws.

*Pat. Pending

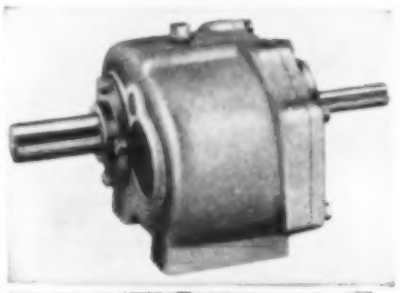
Set Screw & Mfg. Co. **FOR FREE CATALOG**

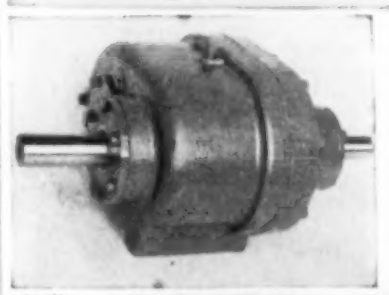
Simply write your name and address on margin of this page, tear out and mail today.

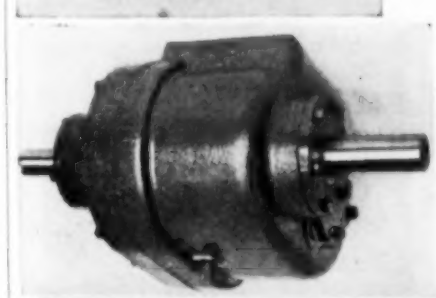
5 Main St., Bartlett, Ill. (Chicago suburb)

We Specialize in Solving Puzzling Set Screw Problems

If you write maker identify as **IEN - 12111**







2 *speed automatic transmission*

13800 (1-5 H.P.)
5 H.P. capacity with input speed of 900 r.p.m. Maximum Reduction 6.3:1

14100 (5-20 H.P.)
20 H.P. capacity with input speed of 900 r.p.m. Maximum Reduction 6.3:1

15000 (20-50 H.P.)
50 H.P. capacity with input speed of 900 r.p.m. maximum Reduction 6.3:1

Send for catalog and complete information.

up to 100 h. p. For Motorizing Lathes, Milling Machines, Shapers, Turret Lathes, Radial Drills, Slotters, Bolt Cutters, Gear Cutters, Die Sinkers, Boring Mills, etc.

WESTERN TRANSMISSIONS

WESTERN MANUFACTURING CO. — 5100 SCOTTEN — DETROIT, MICHIGAN

If you write maker identify as **IEN - 12112**

Lower production costs with YALE ELECTRIC TRUCKS

...and the YALE attachments designed for your industry

Crate clamp attachment also available with sideshifter.

Pusher attachment for automatic positioning of loads.

Paper roll clamp attachment rotates through a full 360°.

The rugged structure of every YALE Electric Truck is designed to house the most efficient power plant available...to insure more than ample capacity for your particular lifting, moving and stacking jobs. The trouble-free YALE hydraulic system provides sure, steady power for safer, smoother lifting and lowering. Yet, with all these advantages...with power and stamina to spare...YALE Electric Trucks are economical to own, operate and maintain...amazingly versatile for every materials handling problem.

YALE*

MATERIALS HANDLING EQUIPMENT

*Reg. in U. S. Patent Office

MAIL THIS COUPON TODAY

The YALE & TOWNE Manufacturing Co., Dept. 3611
Roosevelt Blvd. & Haldeman Ave., Phila. 15, Pa.

☐ Please send me the *Picture Story of Yale Materials Handling Equipment*

☐ Please have local YALE Representative call

Company_____

Name_____ Title_____

Street_____ City_____ State_____

In Canada write: The Yale & Towne Manufacturing Company St. Catharines, Ontario, Canada

Gas, Electric, Diesel & LP-Gas Industrial Trucks

Worksavers • Hand Trucks • Hand & Electric Hoists • Pul-Lifts

If you write maker identify as IEN - 12114

Rolling Steel Doors

Manually, Mechanically, or Power Operated

Below you see Mahon Power Operated Rolling Steel Doors installed in six truck openings to a motor freight loading dock. Another Mahon Power Operated Rolling Steel Door 17'-0" x 22'-0" is installed in a railroad opening in connection with this same loading dock. Rolling Steel Doors occupy no usable space either inside or outside the opening . . . they create no overhead obstructions—cranes may be employed to handle materials adjacent to the door opening. Quick opening, quick closing, vertical roll-up action saves valuable time . . . all-metal construction provides permanence, greater protection against intrusion and fire, and assures you a lifetime of trouble-free service. Write for Catalog containing complete information including Specifications.

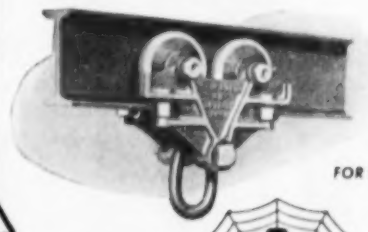
THE R. C. MAHON COMPANY
Detroit 34, Michigan • Representatives in All Principal Cities

MAHON

If you write maker identify as IEN - 12115

hand pushed TROLLEYS

Webb Hand Pushed Trolleys are sturdily built for long life and minimum maintenance. Hardened steel wheels equipped with retainer type ball bearings assure long wearing properties and ease of operation. Triple labyrinth seals keep lubricant in and dirt out. Side guide rollers effectively eliminate binding and excessive wear, especially when moving loads around curves. For simple, inexpensive and easy handling of materials, use Webb Hand Pushed Trolleys.



P-2530
4" to 10"
I-Beam;
½ Ton.

FOR BULLETIN AND PRICES WRITE TO:

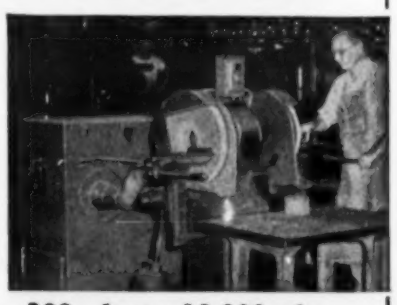
JERVIS B. WEBB COMPANY
8915 ALPINE AVE.
DETROIT 4, MICH.
OFFICES IN PRINCIPAL CITIES
CONVEYOR ENGINEERS AND MANUFACTURERS

If you write maker identify as IEN - 12116

STOP DUST

INSTANTLY with DUSTKOP

DUSTKOP 1400 cfm.



DUSTKOP 3600 cfm.

300 cfm to 10,000 cfm per unit (22 models)

Standard pre-tested, available from stock. Ask for catalog 605-2. Describe dust problem for recommendation by return mail. No obligation.

AGET-DETROIT CO.
401 Main Street
ANN ARBOR, MICH.

If you write maker identify as IEN - 12117

GAGE . . Flexible steel rule reads inside and outside dimensions

Source: STANLEY TOOLS
478-82 Myrtle St., New Britain, Conn.

Nickel plated case

Black numerals and graduations stand out clearly on the white enamel face of this new ½-in. push-pull rule. The 6-ft. blade retracts into a steel housing equipped with a window and pointer that indicates correct inside dimensions when the rule and pointer are located between two surfaces, as shown in the illustration.

The blade is graduated in 16ths on both edges for its entire length and in 32nds on the upper edge for 6 inches. The positioning hook at the outer blade end gives exact inside and outside measurements. List price is $1.50.

If you write maker identify as IEN - 12118

FLAME PROOFING . . Liquid chemical to fill and seal wood block floors

Source: MAINTENANCE ENGINEERING CO.
14-18 W. Johnson St., Philadelphia 44, Pa.

Stops absorption of oil or grease

Meco 73 trade names a new liquid to spread over a wood block floor with a squeegee or a push broom. It penetrates into the blocks, water proofs them and is not attacked by strong detergents employed in floor cleaning. Application can be made on interior or exterior wood block floors and also on wood structures including bridge decking, platforms, railroad ties and similar materials.

The material will not burn of itself. It will retard or prevent ignition of the wood. It protects for a long enough period to permit fire fighting crews to stop any dangerous spreading. Packaging is in 55-gal. drums at $1.65 per gallon. One drum covers 3,000 to 4,000 square feet.

If you write maker identify as IEN - 12119

GLASS . . Herculite tempered, permanently decorated for use in doors

Source: PITTSBURGH PLATE GLASS CO.
634 Duquesne Way, Pittsburgh 22, Pa.

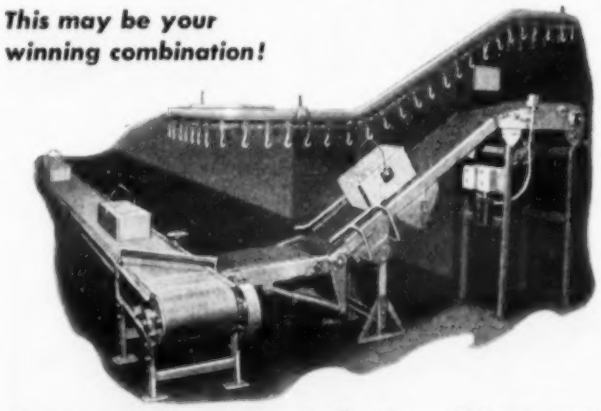
To your order

Fired ceramic colors or sand blasting are employed to produce a new variety of the company's tempered Herculite glass with specified permanent decoration. The company also has developed suitable hardware and an effective weather seal. The glass minimizes glare, looking outward from the inside. It matches the greenish tint of Solex heat absorbing glass. Edges are sufficiently apparent so an individual will not blunder into them.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12120

This may be your winning combination!



Automatic materials handling with MHS STANDARD UNITS

Send for FREE Bulletin PE-2 today!

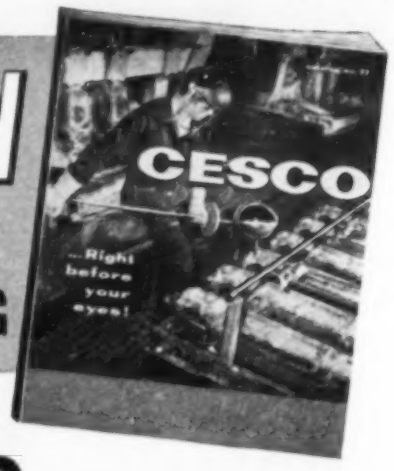
MHS Transveyor, Liftveyor and Junior Monoveyor combine with simple transfers to make an automatic materials handling system. Conveyor units are stock items, ready to ship, economical to buy, easy to erect, efficient in operation.

Look into MHS pre-engineered conveyors to speed handling, cut labor costs, reduce expense!

MECHANICAL HANDLING SYSTEMS INC.
4605 Nancy Avenue, Detroit 12, Michigan
Offices in Principal Cities
In Canada: Canadian Mechanical Handling Systems Ltd., Toronto

If you write maker identify as IEN - 12121

NEW 64-PAGE CATALOG



CESCO safety equipment

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Aprons	Lenses
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OFFICES IN: Atlanta, Birmingham, Boston, Buffalo, Cincinnati, Cleveland, Columbus, Detroit, East Orange, Houston, Indianapolis, Kansas City, Knoxville, Little Rock, Los Angeles, Mexico City, D. F., Milwaukee, Montreal, Peoria, Philadelphia, Pittsburgh, Salt Lake City, San Francisco, Spokane, St. Louis, St. Paul, Toledo, Tulsa

If you write maker identify as IEN - 12122

Pressure Blast Application #204

Before Pressure Blasting

After Pressure Blasting

Wire Brushing, tumbling and handburring of these gears proved impractical because of the cost and the fact that burrs were being "peened" and rolled over instead of being removed. Prssure Blasting removed all burrs and feather edges, blended directional lines and minimized backlash and gear train noise . . . with no stock removal, in seconds!

MODEL A . . . ONE OF 4 STANDARD UNITS. CUSTOM MACHINES DESIGNED TO FIT SPECIAL REQUIREMENTS.

ONLY PRESSURE BLAST GIVES YOU 2-SPEED WET-BLASTING

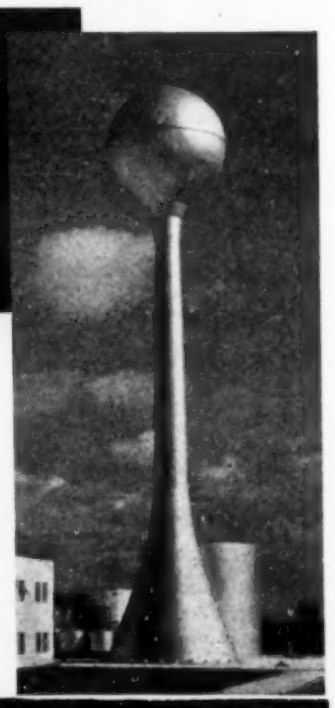
FREE . . . Learn what PRESSURE BLAST can do for you! Die and Mold Polishing, Blending Grind Lines, Deburring, Heat Treat Scale Removal, Honing of Cutting Tools, Pre-plating Cleaning . . . Hundreds of proven, money-saving applications!

Write for our new 8 page fully illustrated Booklet . . . or send samples of work you want tested to:

The CRO-PLATE Company Incorporated
747-3 Windsor Street
Hartford 5, Conn.

If you write maker identify as IEN - 12123

MODERN FIRE PROTECTION



The Horton Watersphere is today's answer to the problem of providing an independent, efficient water supply for fire protection. Combined with an automatic sprinkler system, the Watersphere assures 'round-the-clock performance.

Waterspheres are built in standard capacities from 25,000 to 250,000 gals. Write our nearest office for quotations.

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2123 McCormick Building • Chicago 4, Illinois
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Plants in BIRMINGHAM, CHICAGO, SALT LAKE CITY and GREENVILLE, PA.

If you write maker identify as IEN - 12124

DO IT EASIER... FASTER...

WITH SAFE WERNER ALUMILADDERS

Effort is money. Save both with light weight—ruggedly strong—Werner Aluminum Ladders. Light enough for one man to handle easily—yet strong enough for the most rugged work. Built like an airplane of tough, tempered aluminum alloys—the strongest of the light metals—they can't rot or rust. Non-skid corrugated rungs are locked solidly in place...can't turn. No extra charge for Underwriter approved Safety Shoes, Locks, Rope or Pulleys.

Single ladders 6 ft. to 20 ft....extensions 20 ft. to 52 ft. Also step ladders 4 ft. to 10 ft. See them at your supplier or write direct today for FREE BOOKLET..."What to look for when purchasing Industrial Type Ladders."

Secure, unbreakable lock

Manufacturers—Basic Aluminum Extrusions and Roll-formed Products
Dept. L-5

FACTORIES: Greenville, Pa. Oshawa, Ont., Canada

R. D. WERNER CO. INC. ALUMINUM
295 Fifth Ave., New York 16, N. Y.

If you write maker identify as IEN - 12125

Better rubber products are made with Du Pont NEOPRENE

Neoprene flexible ducts boost production 10% in buffing operation . . . still on job after 2½ years

A large manufacturer of automobile accessories ran into trouble on his buffing and polishing line operation. Rust and dirt caused metal exhaust ducts, integral with the buffing wheels, to stiffen within six months, and positioning of the wheels became a major, time-consuming operation. The problem called for a new type of duct, and Du Pont neoprene supplied the answer.

By installing flexible neoprene-coated fabric ducts, this firm cut adjustment time from hours to minutes . . . increased production 10% in the buffing department, and cut consumption of buffing wheels by 15%. Moreover, despite constant exposure to abrasive grit, grease and buffing oils, the neoprene ducts are still in good condition after 2½ *years of service.*

This service record is a typical example of how many neoprene products reduce maintenance costs and improve production. While Du Pont makes no finished goods of neoprene, your manufacturer or distributor will be glad to tell you about the neoprene products he supplies.

FREE! THE NEOPRENE NOTEBOOK
Each issue describes new neoprene products . . . improved old products . . . tips on reducing maintenance costs. Write today for your free subscription. E. I. du Pont de Nemours & Co. (Inc.), Rubber Chemicals Div. IE-11, Wilmington 98, Delaware.

NEOPRENE

The rubber made by Du Pont since 1932

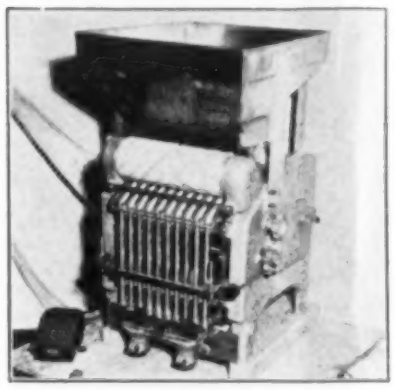
DU PONT

BETTER THINGS FOR BETTER LIVING . . . *through Chemistry*

If you write maker identify as IEN - 12127

PACKAGING . . Coated tablet counter delivers to one or more bottles

Source: LAKSO COMPANY
P. O. Box 257-A, Fitchburg, Mass.



7,500 per minute

Coated tablets, to be delivered into bottles in predetermined totals, are filled into the hopper of this new Model-40 machine. The hopper will hold 50,000 measuring ½ in. in diameter. The tablets move downward by gravity so one layer lies flat on a lucite channel plate to pass under a rubber covered roller carrying integral herringbone ribs. The tablets drop into open front vertical tubes at the front end of the channel.

Each tube is circular in cross-section and slightly larger in diameter than the tablet for which the machine is set up. Pins, carried on a cross bar, are adjustable for height to enter the tube slots at predetermined points to establish the tablet count below each pin and above a bottom gate. The gate closes passage to one or more lucite nozzles under which the operator positions the bottles to be filled.

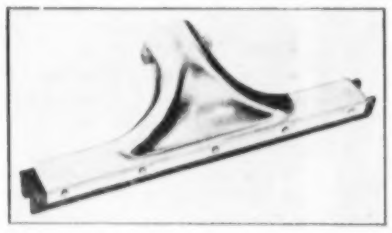
The operator presses a foot switch causing the machine to go through a complete cycle during which time the roller rotates, the stop pins enter the tablet tubes and the bottom gate pulls away to allow the tablets beneath the pins to drop through the nozzles into the bottles. A fixed bottle track and special bottle spouts can be supplied for conveyor line speeds. Then up to 20 bottles can be filled at one time.

The nozzles are interchangeable and are available in $\frac{5}{16}$ to 1¼-in. opening diameters. Adaptors also can be supplied for wide mouthed jars. A count control can be added that will cause the machine to operate in multiple drops when more capacity is required than can be provided by the single filling of the vertical tubes. Overall dimensions are 18½ by 32 by 31½ inches. Weight is 130 pounds. Drive is by a 1/20-hp. motor operating on 110-volt ac.

If you write maker identify as IEN - 12128

CLEANING . . Pickup squeegee applies vacuum machine on wet floor

Source: BREUER ELECTRIC MFG. CO.
5130 N. Ravenswood Ave., Chicago 40, Ill.



Tornado One-Stroke

Two blades, made of neoprene, at the front of this new pickup squeegee and three at the back gather liquid from a floor surface in both forward and back strokes when it is employed on the hose of a vacuum cleaning machine. The blades are held in place with screws in the aluminum housing. Blade length is 15 inches. Fiber shoes can replace the rubber for use on concrete floors. Horse hair brushes apply on carpets, felt or rubberized fabric on highly polished floors.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12129

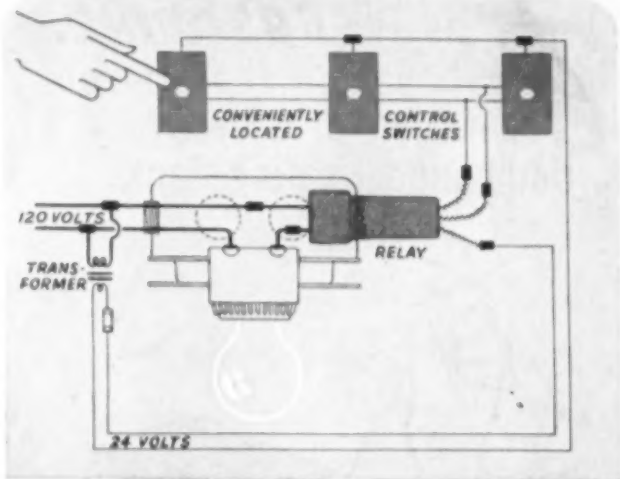
PRATER ROTARY AIRLOCK FEEDER

FEEDS powdered and granular products into conveying line — quickly and accurately!
STOPS air leakage at the discharge of dust collectors or other pneumatic equipment!
PRE-DETERMINES rate of feeding material into mixers, blenders, hoppers, etc.
RECOMMENDED in the processing of: Ball Clay, China Clay, Diatomaceous Earth, Kaolin, Grains and Feeds, Graphite, Limestone, Whey Powder, Calcium Carbonate, Sulphur, Fullers Earth, Ochre, Volcanic Ash, Bronze Powder, Bauxite, Carbon Black Salt, Barium Carbonate, Marl, Sugar, Cocoa, Gypsum, Silica, Manganese Sulphate, Phenolic Molding Compound.

Send for new illustrated bulletin

PRATER PRATER PULVERIZER COMPANY
1536 So. 55th Court • Chicago 50, Ill.

If you write maker identify as IEN - 12130



NEW Remote Control Relay System has many industrial uses

● Originally designed for residential applications, this new, Low Voltage Control System has dozens of industrial applications. Relays are controlled from any number of conveniently located switches operating on 24 volts. Only the load circuit is at 120 volts.

Write for Bulletin 1124. Square D Company, 6060 Rivard Street, Detroit 11, Michigan.

SQUARE D COMPANY

If you write maker identify as IEN - 12131

You Can Take the Word of 50,000 Firms

That SPEED SWEEP Floor Brushes Sweep Cleaner, Faster and Outlast Ordinary Brushes

Unique in design and construction, Speed Sweep so far outperforms and outlasts other floor brushes that over half of the nation's top rated firms use Speed Sweep under widely diversified sweeping conditions. We know Speed Sweep can do a better job for you, too. In fact, we guarantee it. We invite a trial order on that basis. Write for complete facts, including styles, sizes and prices today.

MILWAUKEE DUSTLESS BRUSH CO.
530 N. 22 STREET, MILWAUKEE 3, WISCONSIN

If you write maker identify as IEN - 12132

for control wiring in hot spots . . . OKONITE'S OKOTHERM

Okotherm insulation, a silicone rubber compound developed by Okonite, maintains excellent electrical and physical properties over an extremely wide temperature range. High moisture resistance is another Okotherm characteristic. From printing presses to jet engines, Okotherm has successfully replaced other types of heat-resisting wires with overall savings as high as 88%.

Write today for further information on the advantages of Okotherm wherever high temperatures present a problem. The Okonite Company, Passaic, New Jersey.

OKONITE insulated cables

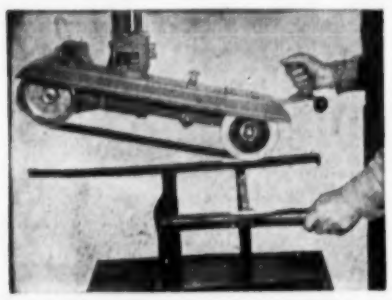
1429

If you write maker identify as **IEN - 12133**

THIS is the **BASIC IDEA** behind the efficient operation of STA-WARM'S Compound Heating Tanks

Sta-Warm ELECTRIC CO.
560 N. CHESTNUT ST., RAVENNA, OHIO

If you write maker identify as **IEN - 12134**



FOR THE FINISHING TOUCH

You Can't beat this new 6-72 Vonnegut Abrasive Belt Grinding and Polishing Machine for cutting weld seams and burrs, removing finish blemishes, etc. Light — but rugged . . . and well balanced . . . easily manipulated when arranged as a *swing machine.* It also can be supplied as a *floor stand* or as a *lathe attachment.* Because of its great versatility, the machine has proved its value for "special" applications too — and it may suggest an entirely new application in *your* plant. If so, write us about it — we'll be glad to help you solve the problem and supply the details for efficient production. Send for Bulletin No. 62.

Grinding and Polishing Machinery Corp.
SUCCESSORS TO VONNEGUT MOULDER CORPORATION
2530-D WINTHROP AVE., INDIANAPOLIS 5, IND., U. S. A.

If you write maker identify as **IEN - 12135**

NOW *Spray On* **design layout ink**

for METAL GLASS or WOOD

EASIER! FASTER!

• No brush, no waste, no mess, no stained hands. Aerosol-type can sprays on CROWN Design Layout Ink in fine mist that dries to excellent scribing surface in a minute. DARK BLUE. Also ideal for "OK" or "reject" inspection marking.

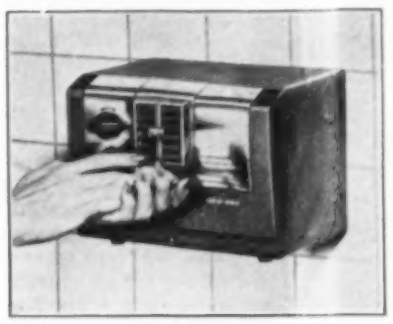
Order Today! $1.59 Per 12-oz. Can
15% discount in cases of 12. Additional discount for larger quantities. F.O.B. Woodstock, Illinois.

CROWN INDUSTRIAL PRODUCTS CO.
715 Amsterdam St., Woodstock, Ill.
Please ship at once:
.....(how many?) cans
.....(how many?) cases
CROWN Design Layout Ink.
Name.....
Company.....
Our Purchase Order No.....
Address.....
City.....Zone.....State.....

If you write maker identify as **IEN - 12136**

WASHROOMS . . Hot air blower replaces towels to dry hands and face

Source: MICHAEL ELECTRIC PRODUCTS CO.
P. O. Box 141, IEN-10, New Haven 1, Conn.



List is $49.75

Timer controlled blower motor and Nichrome electric heating element are energized for a 60-sec. interval when the pointer on the face of this new Ozo-Dry hot air blower is turned to "start" position. Heated air issues from a louvered port in the center of the housing face. The air dries moisture on the hands or face. At the same time, a Westinghouse 794-H Odorout deodorizing lamp produces ozone to issue with the air and destroy objectionable odors.

Construction includes a formed steel housing, rust proofed and finished in white enamel with chromium trim. Mounting is on a wall. Dimensions are 9 by 7 by 7 inches. Operation is on 110-volt ac.

If you write maker identify as **IEN - 12137**

RUBBER . . Silicone compound to mold, extrude, laminate, calender

Source: DOW CORNING CORP.
P. O. Box 592-A, Midland, Mich.

Technical data upon request

Two new silicone rubber stocks have been developed for use in production of a variety of finished parts. They are known as Silastic 50 and 80. They cure to a Shore hardness of 50 and 80 respectively. Both are semi-translucent and can be colored with heat stable pigments. Both are resistant to water absorption and retain their properties at temperatures ranging from minus 80 to plus 500 deg. F. Either stock can be used alone or the two can be compounded for any desired Shore hardness between 50 and 80.

If you write maker identify as **IEN - 12138**

CUTTING . . Abrasive machine takes 12 in. disc or a saw blade

Source: STONE MACHINERY CO.
630 Fayette St., Manlius, N. Y.

Pivot mounted spindle

Model M-35 is a new machine in the company's line of cut-off equipment, previously described IEN-8592-53. The machine mounts a 12-in. abrasive disc to cut ferrous metals or a 12-in. steel saw blade for non-ferrous metals. Capacity, in the former case, is to 1½ in. solids, 2½ in. pipe, or 2½ in. structural members. Capacity in non-ferrous metals is 2½-in. solids and 3-in. tubes or extrusions. List price is $445.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 12139**

Cooking with Ideas for NEW DESIGNS with . . .

RIGID-tex METALS on stove Trim, Light Shields, Oven Liners, Control Panels

Pattern 5-WL

Pop's night to make like a chef is easier and more fun with stoves having the extra advantages of mar-resistant Rigid-tex Metals. There's plenty of eye-appeal but no eye-strain because the decorative texture resists glare and mirroring. Trim conceals mars and scratches . . . reducing shop rejects . . . increasing production output. Rigid-tex Metal used on oven lining and decking has added rigidity and heat diffusion qualities. If you want to put brightwork into your stove designs that's full of buy-appeal, get the full Rigid-tex story.

Write for Design Imagineering Folder . . . on company letterheads, please.

RIGID-tex METALS
RIGIDIZED METALS CORPORATION
66411 OHIO STREET BUFFALO 3, N. Y.
50 Warehouses and Sales Representatives in All Principal Cities Throughout the U. S. and Canada
U. S. & Foreign Patents

If you write maker identify as **IEN - 12140**

It's for You!

HOW TO
★ *Save Time*
★ *Save Floor Space*
★ *Reduce Handling Costs*

all in this FREE BULLETIN

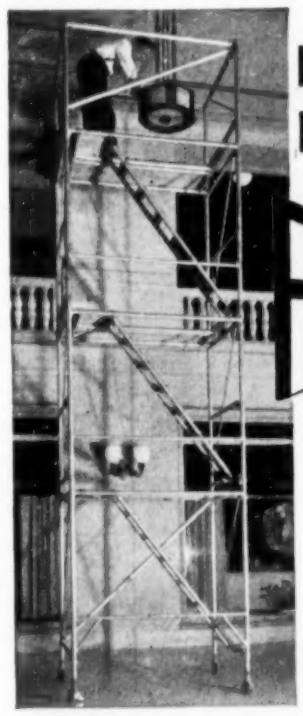
On-the-job photos demonstrate the many advantages of the Nutting Jack and Skid System. It is easy and inexpensive to install — and it is so flexible to varying plant layouts that there is scarcely a materials handling problem to which it cannot be profitably applied.

SEND FOR YOUR COPY OF BULLETIN 48-JS NOW

Export Sales Representative Scheel International Inc.
4237 North Lincoln Avenue • Chicago 18, Ill.

SINCE 1891 **Nutting TRUCK AND CASTER CO.**
2014 DIVISION ST., W., FARIBAULT, MINN.

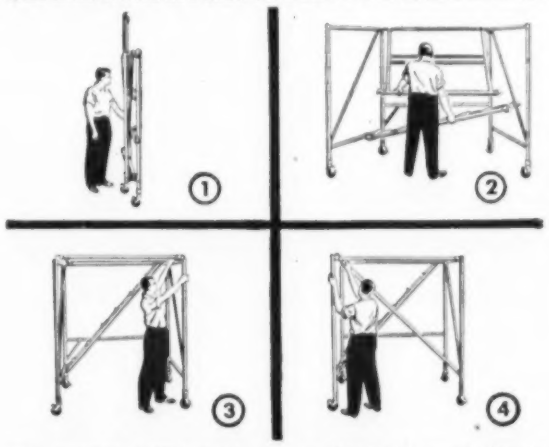
If you write maker identify as **IEN - 12141**



No Acrobatics! No Flip-Flops!
with the FOLD-A-WAY TRADE MARK **SCAFFOLD**
ALUMINUM

Underwriters' Laboratories approved

HERE'S WHY: For erection, the end frames of this new aluminum scaffold swing open sideways, as shown below. Maximum swing of any component is 90 degrees, so the erector is always *within* the base area. One man erects the base section in less than a minute.



The FOLD-AWAY Aluminum Scaffold stands freely and will not "fold under" during erection. Superior construction features include coped and *full-welded* joints LOKT-RING adjustable legs with casters that lock at both wheel and swivel.

Write for illustrated Bulletin ASF-1

Aluminum Sectional Ladder Scaffolds are extremely mobile. 24" width permits use in restricted areas. 6', 8' and 10' spans; ladders 4'3", 5'8" and 6'1" high, slip together easily for desired height. Underwriters' Laboratories approved. Write for Bulletin AS-2.

Gold Medal Ladders & Scaffolding

For Greater Safety . . . Efficiency . . . Economy

THE PATENT SCAFFOLDING CO. INC.
38-21 12th Street Dept. IEN Long Island City 1, N. Y.
6931 Stanford Ave., Los Angeles 1, Calif.
Branches In All Principal Cities

If you write maker identify as IEN - 12143

ONE OF AMERICA'S BROADEST LINES OF HORIZONTAL ALL-PURPOSE PUMPS

ILLUSTRATED 2, 3, 5 HP ELECTRIC DRIVE

PEERLESS TYPE PE & TYPE PB PUMPS

PEERLESS PUMPS

OTHER PEERLESS TYPES:

Fractional hp close-coupled

Integral hp flexible-coupled or V-belt drive

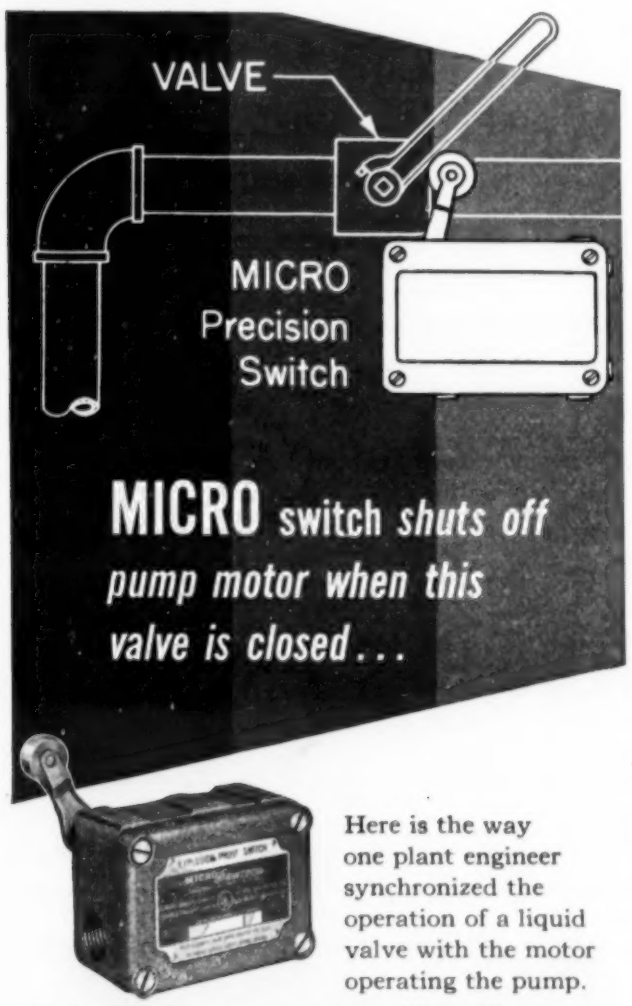
Close-coupled & flexible-coupled pumps ¼ to 150 hp—up to 5500 gpm

Write today for Peerless Bulletin No. B-2300. Illustrated with views of all pumps in the Peerless Fluidyne line. Includes sectional drawings, elevations, dimensional data and head-capacity characteristics. You can buy and apply right from this bulletin.

PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION

Los Angeles 31, California and Indianapolis 8, Indiana
Offices: New York, Chicago, St. Louis, Atlanta; Dallas, Plainview and Lubbock, Texas; Fresno, Los Angeles; Phoenix; Albuquerque, N. M.; Tulsa

If you write maker identify as IEN - 12144



Here is the way one plant engineer synchronized the operation of a liquid valve with the motor operating the pump.

He installed a MICRO switch with a roller arm actuator so that opening of the valve handle automatically operates the switch and closes the motor circuit. Closing the valve shuts off the pump motor. "By using this switch with its adjustable lever arm we have a freely adjustable feature not heretofore attainable with any other switch," he says.

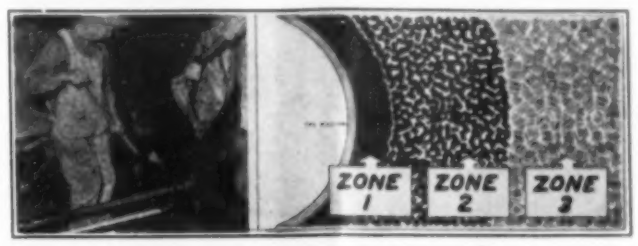
Keep up to date on hundreds of other live, practical ideas by reading MICRO Tips. This MICRO publication is full of specific ways plant engineers have made their present equipment safer, more efficient and more productive by installing MICRO switches. Just tell your MICRO distributor you would like to receive MICRO Tips regularly.

MICRO
MAKERS OF PRECISION SWITCHES
FREEPORT, ILLINOIS
A DIVISION OF
MINNEAPOLIS-HONEYWELL REGULATOR COMPANY

If you write maker identify as IEN - 12146

INSULATING . . Granular petroleum to apply around hot underground pipes

Source: AMERICAN GILSONITE CO.
1143-47 E. Jersey St., Elizabeth 2, N. J.



Pour, tamp down and then back fill

Gilsulate trade names a new blend of the material Gilsonite that has been mined and marketed by the company for a period of years as a component in the manufacture of floor tiles, storage battery boxes, electrical insulation, paints, inks. The material is a solidified petroleum. It is packaged in granular form and is poured around underground pipe lines that have been laid to carry hot fluids and are properly supported in a trench. Passage of the fluid through the newly laid and insulated line melts a layer of the material and fuses it to the pipe. It also forms a second sintered layer surrounding the inner one. It leaves a third outer layer of the granular material.

The first two layers are waterproof. The outer one is not affected by any moisture that may be present and is not subject to chemical attack. The inner layer, bonded to the pipe, remains a dense semi-plastic coating which permits the pipe to expand and contract and also acts as a thermal and electrical insulator. The center sintered layer adds thermal insulation under wet or dry conditions. The outer material also insulates and adds load carrying capacity.

Three grades cover a temperature range from 220 to 550 deg. F. Each of the three has its own initial melting point at which the plastic layer is formed. The Gilsonite is mined from vertical veins. It is a high resin content asphaltite and is believed to have been formed from the polymerization of petroleum. It is not subject to deterioration or corrosion in the ground where it has remained unchanged for millions of years.

If you write maker identify as IEN - 12147

CLEANING . . Pipe line machine for 1¼ to 12 in. drains and sewers

Source: KOLLMAN MFG. CO.
4800 Peach St., Erie, Pa.

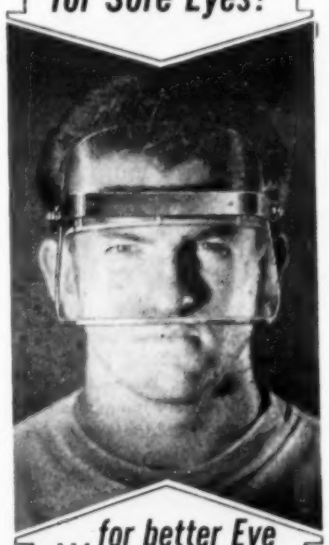
Engine or motor drive

Cable sections, measuring 15 ft. in length, are connected end to end to issue through the driving head of this new Model K-500 drain cleaning machine. The cables are available in three diameters for pipe ranging from 1¼ to 12 in. in diameter. A guide hose encloses the cable to prevent whipping or damage at the machine. There is sufficient power to drive 200 ft. of cable, through any combination of traps or bends, at 700 rpm. Various cutting tools are secured to the outer cable end to cut through obstructions in the line.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58

If you write maker identify as IEN - 12148

Here's a sight for Sore Eyes!



. . . for better Eye Face and Forehead Protection!

McDonald FACE SHIELD

Any worker whose daily tasks expose him to flying sparks, molten metal or fragments, will welcome this transparent McDonald Face Shield. Fog-resistant and sturdy, it allows maximum vision with maximum protection against hazards. Flexible, adjustable headband assures comfort. It's so light a worker doesn't know he's wearing it! All parts are replaceable.

Send for bulletin and prices, today!

B. F. McDONALD CO.
Manufacturers & Distributors of Industrial Safety Equipment
5721 WEST 96TH ST., LOS ANGELES 45, CALIF.
Other Offices in San Francisco & Houston

If you write maker identify as IEN - 12149

INDUSTRIAL INKS To Mark Anything!

Whatever the substance, Phillips has an ink to mark it permanently and legibly—or can make one. Marking experts insist on "Clear Print" Wood Block Stamp Pads and Opaque Inks. They get clear, sharp, fast-drying impressions. Also inks for brush, pen, stencil or machine application available in a variety of colors and quantity containers.

★ Quick Laboratory Service On Your Problem Markings

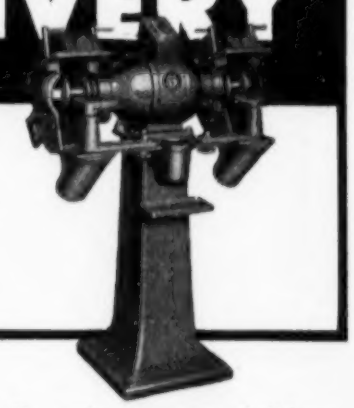
★ To Permanently Mark . . . Metals, Plastics, Glass, Wood, Paper, Leather, Ceramics—glazed, varnished or lacquered surfaces and virtually every other known material.

L. A. PHILLIPS, President
PHILLIPS PROCESS CO. INC.
192 MILL STREET
ROCHESTER 14, N. Y.

If you write maker identify as IEN - 12150

IMMEDIATE DELIVERY

U. S. ELECTRICAL TOOL MODEL 500 UTILITY FLOOR GRINDERS



Totally enclosed motors, ball-bearings in dust-tight housings, ruggedly constructed base and frame, for heavy-duty service. Push button starters, with overload protection. Available in five sizes 1 to 5 H.P., 220/440 volts, 60 cycles, 2 or 3 phase. Write today for name of Distributor and catalog No. US 51.

United States Electrical Tool Division
THE EMERSON ELECTRIC MFG. CO.
1050 Findlay St., Cincinnati 14, Ohio

If you write maker identify as IEN - 12151

NoDrip . . . STOPS CONDENSATION DRIP!

NoDRIP PREVENTS RUST
In addition to stopping drip and keeping floors dry.
ANYONE CAN APPLY
Brush, trowel or spray NoDrip on tanks, condensers, suction lines, vats, pipes, walls, ceilings, etc. NoDrip adheres to metal, concrete, brick, plaster. It forms a seamless covering that is effective as soon as dry. Acid, alkali and brine resistant.

Interesting 32-page Handbook shows what NoDrip is and what it does. It's free. Send coupon today.

☐ SEND NoDRIP HANDBOOK
NAME_____
ADDRESS_____
CITY_____ STATE_____

J. W. MORTELL CO., 510 BURCH ST., KANKAKEE, ILLINOIS
TECHNICAL COATINGS SINCE 1895

If you write maker identify as **IEN - 12152**

FOR TESTING FABRICS THAT MUST HOLD GAS

The Cambridge Fabric Permeameter is an accurate, rugged and convenient instrument for production testing of the permeability of fabrics which are to be inflated with Hydrogen, Helium, Carbon Dioxide, etc.

The rate of permeation through the fabric is quickly determined by equipment utilizing the thermal conductivity method and is indicated in terms of liters per square meter per 24 hours of the retained gas.

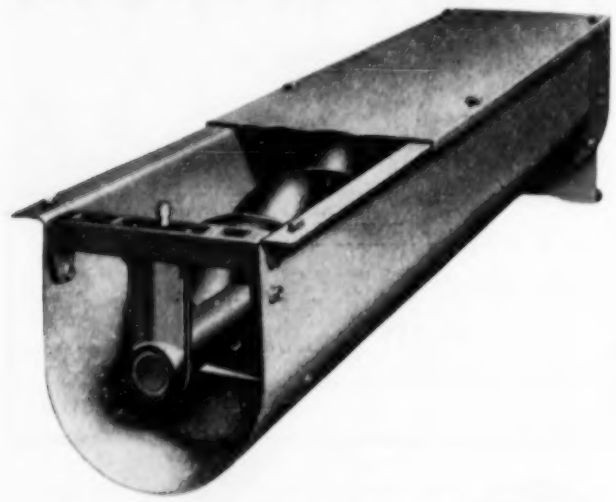
Manufacturers of fabrics for lighter-than-air Craft, Life Rafts, Life Jackets, Gas Masks, etc., will find this an indispensable instrument. Send for particulars.

CAMBRIDGE INSTRUMENT CO., INC.
3710 Grand Central Terminal, New York, N. Y.

CAMBRIDGE FABRIC PERMEAMETER

If you write maker identify as **IEN - 12153**

JEFFREY SPIRAL CONVEYOR



Jeffrey's complete line of Spiral Conveyors including Sectional Flight, Helicoid, Mixer, Cut Flight, Ribbon and Cast Iron are designed for practically any requirement and operating condition. Engineered for uniform strength and true alignment, they are standard units ready to be fitted into present or new systems.

Write for Catalog 851 for more information

THE JEFFREY MANUFACTURING CO.
Columbus 16, Ohio

IF IT'S MINED, PROCESSED OR MOVED ...IT'S A JOB FOR JEFFREY!

sales offices and distributors in principal cities

If you write maker identify as **IEN - 12154**

WITH THE NEW

SAVE TIME, SPACE AND EXPENSE MICROCARD SYSTEM

18,600 FULL SIZE RECORDS FILL 31 (4-DRAWER) FILES

AT A COST OF ABOUT $6,400.00

IN MICROCARD FORM THESE RECORDS CAN BE STORED IN ONE SMALL CARD FILE

AT A COST OF ABOUT $400.00

3" x 5" MICROCARD HOLDS 50 TO 80 FULL SIZE PAGES
MICROCARD READER ENLARGES CARDS 26 TIMES FOR EASY READING

WRITE TODAY
For Complete Information

Spend pennies now where dollars were disappearing! New MICROCARD SYSTEM is the economical, quick to find, read, and refile method of record storage. Figures available on your industry application.

MICROCARD CORP. • READER DIVISION
Box 314D • La Crosse, Wisconsin

Arrangements made with Kodak Ltd. of England to produce a similar reader

If you write maker identify as **IEN - 12155**

PAINTING . . Spray booth coating accumulates over-spray for removal

Source: THOMPSON & COMPANY
1083-87 Allegheny Ave., Oakmont, Pa.

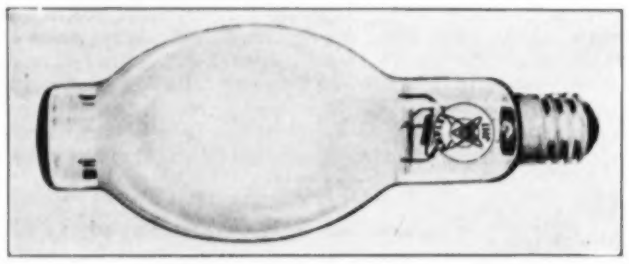
Packaged in 5 gal. cans and drums

Spray Booth Shield designates a new paste-like milky-white semi-fluid for application by brush, trowel or knife on the interior of spray booths and on turntables and work stands. Application is to a thickness of about $\frac{1}{16}$ inch. Then the material is covered by sheets of common paper or left as it is. When paint over-spray builds up on the paper it can be stripped off by hand and new paper added. When the spray strikes directly on the material, both paint and material can be removed with a scraper or putty knife.

If you write maker identify as **IEN - 12156**

LIGHTING . . Fluorescent lamp encloses mercury arc lamp as a unit

Source: AMPLEX CORPORATION
109-13 Water St., Brooklyn 1, N. Y.



High output for input watt rating

New size, rating 400 watts, has been added to the company's Type JH-1 line of electric lamps. Light output is 18,000 lumens. Design life rating is 6,000 hours. An inner mercury arc lamp, in a quartz tube, emits a brilliant blue-green light and also invisible ultraviolet rays. The latter rays act upon the phosphor coating inside the outer integral envelope of the lamp causing it to fluoresce red. The combination results in white.

If you write maker identify as **IEN - 12157**

WELDING . . Wall chart to assist selection of rods and electrodes

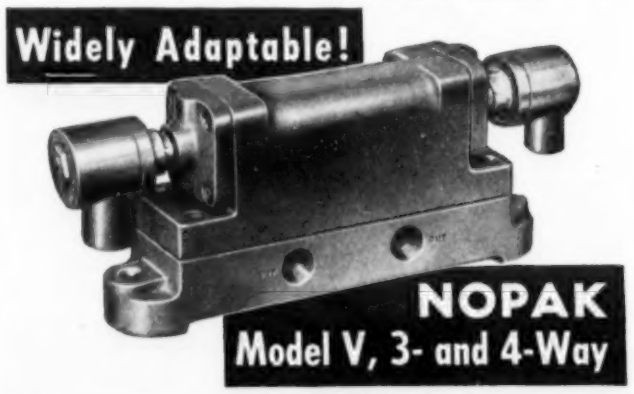
Eutectic Welding Alloys Corp.
40-42 172nd St., Dept. "P", Flushing 58, N. Y.

Information on 160 welding alloys is given in new 22 by 34-in. Rod Selector Chart, available on request. Included are bonding points, tip colors, tensile strengths and other data, classified by type of metal and grouped by application.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 12158**

Widely Adaptable!



NOPAK Model V, 3- and 4-Way

Pilot Operated Slide Valves

Pilot Pressure or Bleeder Operated . . . these unique air valves permit an infinite variety of cycling in the direct or remote control of continuous or intermittent cylinder action. They may be energized by means of 2-way hand, cam or foot poppet valves; solenoid pilot or bleeder valves. Light weight, all-aluminum construction, simple design and small size make them adaptable to many uses which other valves cannot fulfill.

Write for Illustrated Bulletin "V"

GALLAND-HENNING NOPAK DIVISION
2760 S. 31st Street • Milwaukee 46, Wisconsin

Write for NOPAK Bulletin "V"

•

Representatives in Principal Cities

NOPAK VALVES AND CYLINDERS
DESIGNED for AIR and HYDRAULIC SERVICE

A 7579-1/9

If you write maker identify as **IEN - 12159**

Is this your soldering problem, too?

Higher Speed with Smaller Tips?

The answer is—

HEXACON

SUPER POWERED SOLDERING IRONS

SIX MODELS TO CHOOSE FROM

Tip Dia.	Watts	Cat No.	List Price
1/4	100	P-114	$8.25
1/4	150	P-154	9.00
1/4	200	P-214	10.00
3/8	200	P-238	10.00
1/2	200	P-212	10.00
3/8	300	P-338	13.25

Solder Faster with Lower Tip Cost!

For example, Cat. P-214 has more speed than conventional 200 watt iron, but takes 3/8" tip instead of 5/8" *(only 1/6th the copper).*

Write for Catalog showing 40 industrial soldering irons of every type and size; no obligation.

HEXACON ELECTRIC CO.
155 WEST CLAY AVENUE, ROSELLE PARK, NEW JERSEY

HEXACON — Industry's No. 1 Soldering Iron

If you write maker identify as **IEN - 12160**

New Plant offers facilities to coat products with pressure-sensitive adhesive

Send us the material and we will formulate and apply the adhesive. We can handle roll materials to 54 inches in width.

Your individual requirements will be met in our up-to-date facilities with a background of 16 years' experience as specialists in pressure-sensitive adhesive coatings.

The Betham Corp.

Adhesive Coating Specialists

Lincoln Blvd. & River Rd. — Bound Brook, N. J.

If you write maker identify as **IEN - 12161**

drills 6 inches of concrete per minute

...gives lowest cost per foot of concrete drilled with a

tilden

ROTARY KONKRETE KORE DRILL

Patented core slot expels cuttings *automatically*

U. S. Pat. No. Re. 23539

Drill straight, clean, ready-to-use holes at speeds up to 6 inches per minute—even through steel reinforced concrete. TILDEN Rotary Koncrete Kore Drills can be used with ordinary electric or rotary air drill. Free Factory sharpening and repair service still available on all Standard TILDEN Drills from 3/16" to 8-inch diameters. Interchangeable shanks for any depth hole.

SOLD BY SUPPLY HOUSES EVERYWHERE

WRITE TODAY for free, illustrated catalog.

TILDEN TOOL Manufacturing Company
209 Los Molinos • San Clemente, Calif.
Branch: 7111 North Glenwood, Chicago 26, Illinois

If you write maker identify as **IEN - 12162**

Easy to use . . . Easy to clean . . . Easy to service

DERBY SEALER — **MODEL 32 GUMMED TAPE DISPENSER**

For Shipping Room and Production Line Packaging

- Rugged simplicity aptly describes the Model 32. Derby's exclusive, one-piece solid casting eliminates parts and provides added rigidity. What's more, the Model 32 is easy to clean, even during the hot summer months when machines tend to "gum-up."
- The Derby Model 32 accommodates any tape from 1" to 3" wide. Delivers from 4 inches to 34 inches of tape at one stroke.
- Derby's exclusive "moisture-control" system maintains a maximum high water level in the tank to assure a constant supply of water to the brush, no matter how fast tape is dispensed.
- Also available is the Model 32-T with tool steel shear-type blades for cutting reinforced strapping tapes. Blades have two cutting edges to double their useful life before resharpening.

For further information, write Dept. IF

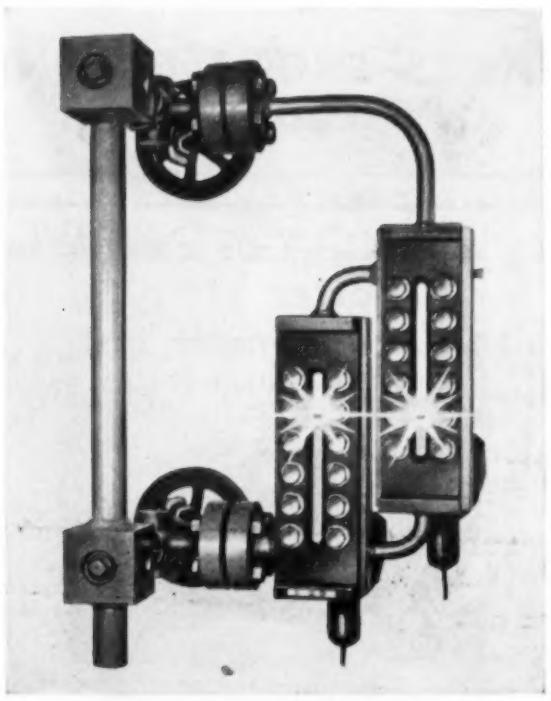
DERBY SEALERS, INC.
Derby, Connecticut

If you write maker identify as **IEN - 12163**

THIS BOILER WATER LEVEL SHINES LIKE A STAR

Yarway Type "M" Illuminators on Yarway Flat Glass Gage inserts cause the meniscus at water level to "shine like a star." It literally dances before your eyes. The blue-green light is especially effective in penetrating deposits on gage glass, dust particles in the air and extraneous light.

Other new features of Yarway water gage assemblies give greater dependability, longer life and more accurate readings. These features include flexible "separated design" for wide visibility ranges, interconnecting expansion loops, short connections to the drum, Welbond gage valves and tie-bar-type water column to provide circulation . . . plus Yarway's pressure-sealed "floating assembly" gage glass inserts.



Yarway Water Column and Gage assemblies are also available in single insert types for medium range of visibilities, and for all pressures up to 2500 psi. Write for free Yarway Water Column and Gage Bulletin WG-1811.

YARNALL-WARING COMPANY
122 Mermaid Avenue, Philadelphia 18, Pa.

YARWAY — *water columns and gages*

If you write maker identify as **IEN - 12165**

BENDING . . Geared roller head for pipe, has electric drill drive

Source: WALLACE SUPPLIES MFG. CO.
1302 Diversey Parkway, Chicago 14, Ill.

60 bends per hour

Pipe measuring ½ to 1¼ in., in standard weight, can be bent to any angle, maximum at 180 deg., with this new portable assembly of geared roller equipped head and portable electric Skil drill. The drill rates ¾ hp. and is located on the head as shown. Pipe to be bent is positioned in a bracket and between outer and inner rollers.

Limit switches are preset at the factory to prevent over-travel in forward or reverse direction. A reverse switch is mounted on the drill above the regular control switch. Operation is on 110-volt ac. or dc.

If you write maker identify as **IEN - 12166**

PAINTING . . Quick drying enamel for trucks, fire escapes, traffic signs

Source: TROPICAL PAINT & OIL CO.
1244-48 W. 70th St., Cleveland 2, Ohio

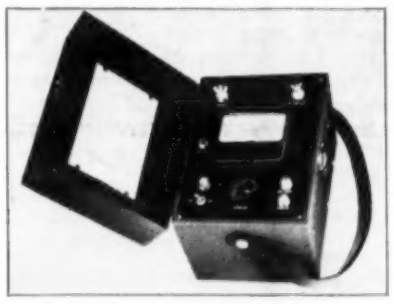
For indoor or outdoor service

New enamel is brushed or sprayed on metal surfaces, and also on wood, to dry in about 4 hours. It is intended for general use on equipment and structures, particularly those made of metal. The hard gloss colors include blue, yellow, green, gray, orange and red.

If you write maker identify as **IEN - 12167**

TESTING . . Resistance meter checks insulation to 10,000 volt ac.

Source: ASSOCIATED RESEARCH INC.
3762 W. Belmont Ave., Chicago 18, Ill.



Bulletin 4-1

Hypot Junior Model 422 is a new portable instrument to check electrical leakage and breakdown. It provides a continuously variable voltage output maximum at 10,000 volts from a 110 volt 60 cycle ac. input. A kilovolt meter is connected across the high voltage output for indication within 3 per cent of full scale independent of the load.

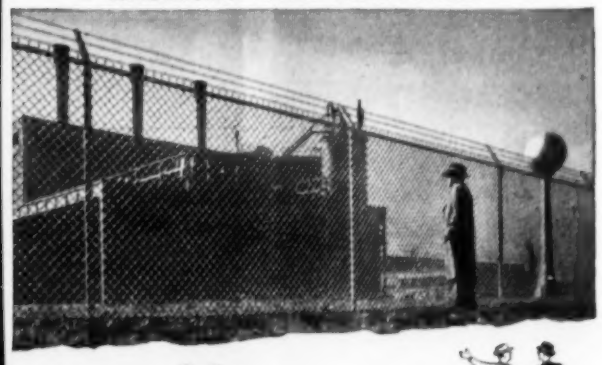
Overall dimensions are about 9 by 12 by 10 inches. The instrument face is protected by a removable hinged cover. Weight is about 25 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 12168**

PAGE FENCE - *Since 1883*

• AMERICA'S FIRST WIRE FENCE •



Could you **blame** yourself if failure to safeguard property resulted in loss? After all, isn't property protection a responsibility of all management? Security is a job for Page Chain Link Fence, available in heavily galvanized Copper-Bearing Steel, long-lasting Stainless Steel or corrosion-resisting Aluminum. But PAGE means more than a quality product. It is a complete fence service, performed by more than 100 firms having technical training and fence erecting know-how, and conveniently located throughout the country. For illustrated data and name of firm nearest you —

Write to PAGE FENCE ASSOCIATION in Monessen, Pa., Atlanta, Bridgeport, Chicago, Denver, Detroit, Los Angeles, Philadelphia, New York or San Francisco.

PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

If you write maker identify as **IEN - 12169**

SPEED UP SMALL PARTS ASSEMBLY

Parts feed automatically toward front— end reaching and fumbling.

Bins taper toward front to form convenient semicircle —keep all bins within easy reach.

Stacking, locking construction for rigid set-ups, easily changed when necessary.

All-welded construction. Smooth, folded edges.

New-design, adjustable hoppers provide increased capacity and permit regulated flow of parts according to sizes and weights.

Two-sizes—tapered or straight sides.

IMMEDIATE DELIVERY
Manufactured and sold in Canada exclusively by Wickware-Stackbin, Ltd., Ottawa
Write Stackbin Corp., 1077 Main Street, Pawtucket, R. I.

STACKBIN SYSTEM *"Stacked and Still Accessible"*

If you write maker identify as **IEN - 12170**

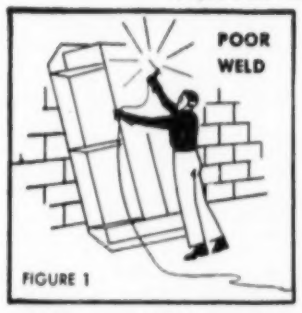


FIGURE 1

FIGURE 2

How Worthington Welding Positioners help your welders produce BETTER WELDS

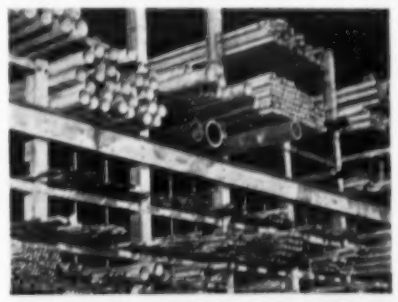
When your welder has to climb over, prop, or flop the work, he's wasting time and can only obtain good downhand welding over a limited area (Figure 1). With a Worthington Welding Positioner, the work is quickly tilted or rotated automatically into position for correct downhand welding. Write for Bulletin 210D. Worthington Corporation, Plainfield, N. J.

Y.2.5

WORTHINGTON
Welding Positioners—Turning Rolls

If you write maker identify as **IEN - 12171**

FRASSE for Stainless Pipe and Tubing



If you use tubular stainless in your product or pipeline — you'll find it faster, handier to work from Frasse warehouse stocks. With plenty of sizes to choose from — Frasse is a safe bet to have *the* size required by your specifications. Complete Frasse stocks of tubular stainless include:

- **PIPE** — seamless, ⅛" to 8" PS, schedules 40 & 80; welded, ⅛" to 6" PS, schedules 5, 10 & 40
- **TUBE** — seamless, ⅛" to 8⅝" O.D., .022" to .500" wall; welded, ⅛" to 6⅝" O.D., .014" to .280" wall

Choose the size you need — then let fast delivery from your nearby Frasse warehouse help you get the job done quicker. Broad size selection, speedy availability and practical engineering assistance make Frasse *the* source for tubular stainless. When your layout calls for stainless pipe or tubing—call Frasse.

Call FRASSE 1st — FOR STAINLESS TUBING PIPE • VALVES FITTINGS

Peter A. FRASSE and Co., Inc.
17 Grand Street, New York 13, N. Y.
Philadelphia • Buffalo • Syracuse • Hartford

If you write maker identify as **IEN - 12172**

Undoubtedly, you have used these bronze bars for making bearings, bushings, washers and thrust plates. Do you realize that it has exceptional properties for other uses? Bronze is easy to machine, it is non-sparking, is corrosion resistant. Many manufacturers find it ideal for certain gears and pinions, guide rollers, sheaves, trolley wheels, tips for air tools, etc. The cost per pound is offset many times by the low cost of machining alone. Other properties give it advantages over other materials. Write today for further information.

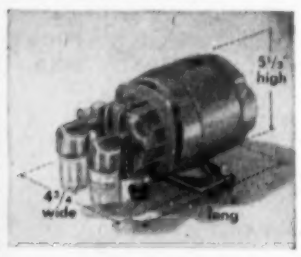
JOHNSON BRONZE COMPANY
476 South Mill Street, New Castle, Pa.

JOHNSON JB BEARINGS
Sleeve Type

Available from stock at your Johnson Distributor's

If you write maker identify as **IEN - 12173**

Announcing Two Compact
NEW GAST ROTARY Integral-MOTOR AIR PUMPS
FOR ORIGINAL EQUIPMENT APPLICATIONS AND PORTABLE USES



Note the compactness! Yet these Integral Motor-Pumps (basic Model No. 0406 shown) deliver .6 CFM—to 15 PSI or 25 inches Vacuum. 1750 RPM with 1/12 HP G.E. Motor.

It's a VACUUM PUMP! For vacuum, Model 0406-V2-154X has already proved its advantages as a component of industrial instruments requiring air flow; as a portable air sampler, etc.

It's an AIR COMPRESSOR! For pressure, Model 0406-P2-154X is in use on special machines for textile wear testing; as a laboratory compressor, etc.

Both OIL-LESS AND STANDARD LUBRICATED TYPES OFFERED—VARIOUS ACCESSORIES

Write FOR NEW DATA SHEETS on 0406 Integral Motor-Pump Models.

You can get absolutely oil-free air with completely oil-less models (never need lubrication); also standard lubricated models. Altogether, Gast offers a wide range of Integral Motor-Pump Models from 1/12 to 1/3 HP. *Investigate now!*

Same model, but with handle, gauges, nipples, etc., to show typical accessories we can furnish.

Original Equipment Manufacturers for Over 25 Years

GAST ROTARY AIR MOTORS · COMPRESSORS · VACUUM PUMPS
(TO THREE H.P.) (TO 30 LBS.) (TO 28 INCHES)
GAST MANUFACTURING CORP., 119 Hinkley St., Benton Harbor, Mich.

If you write maker identify as **IEN - 12174**

New MANCO
HAND-OPERATED HYDRAULIC CUTTER

A brand new development in hand-operated cutting tools. Tremendous hydraulic cutting force produced by easy hand-pump action.

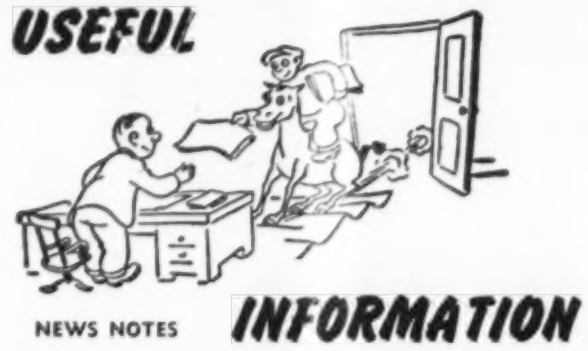
Provides 10 Tons Thrust

The powerful, yet compact and relatively lightweight Manco Hydraulic Cutter bites right through ½" reinforcing rod, chain, bolts, etc. Unique dual ratio pump affords rapid traverse for speed of cut. Twist of handle grip provides automatic blade retraction. Blades easily removed for sharpening. Can be adapted for riveting, crimping, punching, etc. Weight 15 lbs. Length 24".

Model 200-A

Write for complete information
Dept. N-11

MANCO MFG. CO.
BRADLEY, ILLINOIS



If you write maker identify as **IEN - 12175**

ALUMINUM . . Foil packaging
the subject of booklet on materials, methods, uses
Reynolds Metals Co.
2553 S. Third St., Louisville 1, Ky.

W. J. Faymonville, company's Chief Packaging Engineer, is author of 30-page booklet available on letterhead request to packaging engineers and technical men. List price is $1 otherwise. Title is "Protective Packaging with Aluminum Foil." Topics include types of foil packaging materials, importance of good seam seals, principal types of liners and wraps, tables of moisture vapor transmission, and tables to assist in selection of foil specifications depending on amount of protection desired.

If you write maker identify as **IEN - 12176**

BATTERIES . . Information booklet
on storage battery fundamentals and maintenance
Electric Storage Battery Co.
Box 8109-A, Philadelphia 1, Pa.

Question and answer method of presenting information is employed in revised 24-page edition of "The Storage Battery". The first question is what is a storage battery. This is followed by information on chemical action, battery capacity and useful voltage, attention required, adding water, keeping the battery clean, maintaining healthy state of charge, the generator and charging control of an automotive storage battery.

If you write maker identify as **IEN - 12177**

CLEANING . . Suggestions for textile mills
on how to clean equipment, wash textiles, clean floors
Oakite Products Inc.
116-A Rector St., New York 6, N. Y.

Fulling wool, kier boiling, wood scouring are textile washing operations described in new 32-page pocket "Textile Mill Cleaning Guide". Materials and procedures are given for these and other operations such as cleaning for overhaul work, maintenance cleaning of machinery, humidifier and air conditioner maintenance, plant-maintenance cleaning. Please use your company letterhead.

If you write maker identify as **IEN - 12178**

EQUIVALENTS . . Pocket size chart
of decimal equivalents, screw thread and tap data
Reiff & Nestor Co.
48-52 Singer St., Lykens, Pa.

Available free, new 6¼ by 3½-in. plastic chart lists decimal equivalents to four places of fractions from 1/64 to 1 inch. The opposite side tabulates information on National Coarse threads from No. 1-64 to 1 in.-8, National Fine threads from 2-64 to 1⅛ in.-12, pipe threads from ⅛ to 3 inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

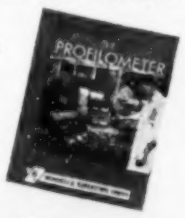
If you write maker identify as **IEN - 12179**

SHOP TOOL
for measuring surface roughness . . . *Since 1936*

The PROFILOMETER

- ★ Used in thousands of production and inspection departments—wherever most convenient—even on parts still in the machine.
- ★ No special skill or experience required.
- ★ Measures practically ALL surfaces that can be produced by machining, grinding and finishing operations.
- ★ Dependable—and tamper-proof.
- ★ Sold and serviced by *specialists* in surface measurement—since 1936.

FREE BULLETIN LT77
describes the Profilometer's practical operating features—shows 7 ways in which YOU may gain through surface roughness measurement. WRITE TODAY for your copy.

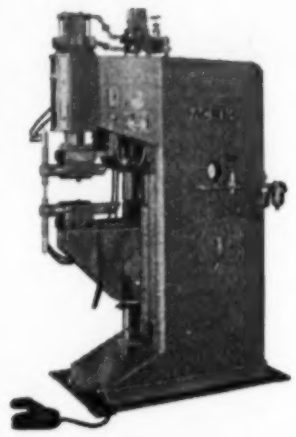


Profilometer is a registered trade name.

MICROMETRICAL MANUFACTURING COMPANY
345 S. MAIN ST. • ANN ARBOR 1, MICH.

If you write maker identify as **IEN - 12180**

ACME
"Hot Spot" WELDERS



Here is a complete line of resistance welders, considered the "Cadillac" of its field—at a price you can afford, and backed by over 35 years of service in plants throughout the world. Write for literature or name of your nearest distributor.

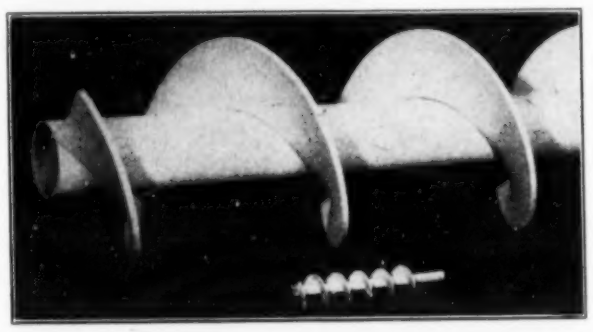
- SPOT
- PRESS
- PROJECTION
- SEAM
- PORTABLE
- SPECIALS

ACME ELECTRIC WELDER CO.
2622 FRUITLAND AVE., LOS ANGELES 58, CALIF.

If you write maker identify as **IEN - 12181**

BOTTLES TO BOXCARS

The large worm shown below is used for unloading boxcars while the small worm is used for filling bottles. An illustration of the sizes and designs available.



Helicoid and Ribbon,

WORMS AND SPIRALS

JAMES EAGEN & SONS
WEST WYOMING, PA.

If you write maker identify as **IEN - 12182**

Better Way to Clean Small Parts
FOUNTAIN BRUSH ACTION and CLEAN FILTERED SOLVENT

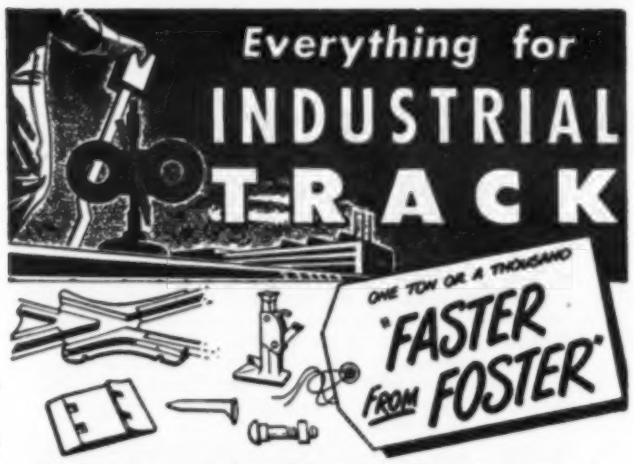
FOR THE TOOL ROOM MAINTENANCE & PRODUCTION

Grease and dirt flows away as operator brushes and clear solvent flows through brush bristles. No splashing. Fits on work bench or portable stand, 20" square. Has separate dip tank at rear.

OTHER GRAYMILLS CLEANING UNITS UP TO 300 GAL. SIZE
WRITE FOR CATALOG

GRAYMILLS CORPORATION
3709 Lincoln Avenue **Chicago 13, Ill.**
West Coast Offices and Warehouses: 4511 Melrose Ave., Los Angeles; 538 Polk St., San Francisco — 8030 Fortieth Ave., N. E., Seattle.

If you write maker identify as **IEN - 12183**



Need Rails—Switches—Frogs—Guard Rails or Track Tools? For best selections and prompt deliveries—try FOSTER—shipments of most items can be made from stocks in our five nationwide warehouses.

RAILS—New and Relaying Foster stocks are being replenished daily. Any items we did not have last week, we'll probably have next week. We match specifications and sizes to meet all your requirements on any job, new installations or replacements. *Call on Foster for all your needs for Industrial Track Equipment and Supplies.*

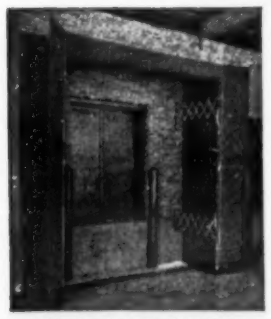
Write for Track Equipment Bulletin IE-11.

L.B. FOSTER CO.

CHICAGO 4, ILL. HOUSTON 2, TEX.
PITTSBURGH 30, PA. NEW YORK 7, N.Y.

If you write maker identify as **IEN - 12184**

CAPCO DOCK COVERS OFFER YEAR 'ROUND PROTECTION



Can be installed inside or outside of dock door . . . models for various purposes.

SOLD AT A LOW COST

...and the cost is especially low because it pays for itself many times...saves time and money over many years.

- PREVENTS ACCIDENTS
- ONE MAN CAN OPERATE
- FIREPROOF
- WATERPROOF
- DURABLE—LONG LIFE
- DEPENDABLE

BEAT THE BAD WEATHER

CAPCO Dock Covers completely enclose the space between car and building doorways, protecting loading and unloading during bad weather. Recommended by safety engineers. No more wet merchandise in the rain . . . no more interruption during winter. Here's your insurance against loss of either heat or refrigeration; you have practically the same as indoor loading.

CAPCO

Be sure to write for illustrated literature and prices

622-24 PROSPECT AVENUE • KANSAS CITY 1, MISSOURI

USEFUL INFORMATION
(Continued)

If you write maker identify as **IEN - 12186**

FLOORS . . Reference chart on materials to seal, wax, clean wood and other floors

Multi-Clean Products Inc.
2281 Ford Parkway, St. Paul 1, Minn.

Recommended materials for floors are listed in new 28 by 11-in. chart, "Liquids Product Specifications", which folds to fit a standard three-ring binder. They include penetrating seal, wood and asphalt tile preservers, waxes, cleaners, for floors of wood, cork, concrete, asphalt tile, marble. Please use your company letterhead.

If you write maker identify as **IEN - 12187**

GRINDING . . Instruction booklet on how to grind cemented carbide tools and cutters

Carborundum Company
1942 Buffalo Ave., Niagara Falls, N. Y.

Silicon carbide and diamond wheels for grinding carbide tools are described in new 40-page **pocket-size "Grinding Cemented Carbides"** booklet. Advantages and limitations of both, wheel types, wet vs. dry grinding, coolants, machines, chipbreaker and form grinding, wheel dressing, feeds and speeds, grinding hints and wheel recommendations are given.

If you write maker identify as **IEN - 12188**

GRINDING . . How to collect diamond swarf is told by article in company's house publication

Norton Company
36 New Bond St., Worcester 6, Mass.

Why collect swarf? is the question asked at the start of an article in July issue of "Grits and Grinds". Dollar return and a check on efficiency are two of the answers. The article tells how to segregate diamond swarf from other swarf produced in grinding, shows dry and wet methods, makes a list of suggestions on how to go about it.

If you write maker identify as **IEN - 12189**

HEATING . . Radiant ceiling construction, graphs show performance in heating and cooling a room

Burgess-Manning Co.
5968-72 Northwest Highway, Chicago 31, Ill.

New set of 13 graphs has been assembled on the performance of the company's Radiant Ceiling, an assembly of perforated aluminum panels supported by pipes that can heat or cool as required. The graphs show capacity for heating and cooling, effective surface temperature, calculated topside heat absorbed. Ask for "Heating Capacity Curves".

If you write maker identify as **IEN - 12190**

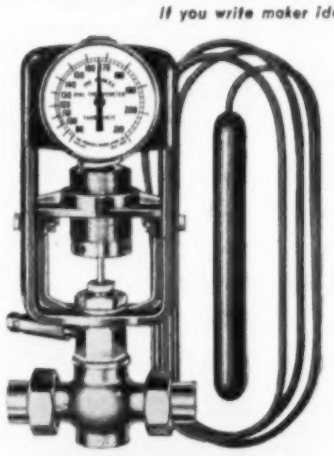
LUBRICATING . . Technical paper reprint on methods and materials for lubricating open gears

Brooks Oil Co.
932-36 Ridge Ave., Pittsburgh 12, Pa.

H. W. Winkler, company's Vice-President in charge of research and control, is author of a technical paper which the company will send you on request. The 4-page reprint, "Open Gear Lubrication from the Laboratory Viewpoint", gives chemical and physical characteristics of common lubricants along with suggestions on handling, storing, application.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

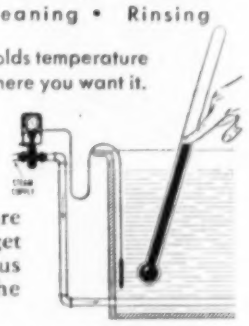
If you write maker identify as **IEN - 12191**



NEW POWERS REGULATOR

For
Plating • Anodizing
Bonderizing • Pickling
Cleaning • Rinsing

Holds temperature where you want it.



Saves LABOR and Steam Helps Eliminate Costly Rejects

Powers No. 11-MF Regulators are self-operating. They will help you get the most effective use from various solutions by holding them at the right temperature automatically.

Plastic Covered Thermal Bulb and Tubing—is highly resistant to solutions in above processes. Prevents electrical shorts. No insulators required for the regulator.

Easy to Read 4" Dial Thermometer—indicates temperature of liquid being controlled and makes it easy to adjust regulator for different temperatures.

Bulletin 330 describes this simple, dependable control. May we send you a copy? (b31)

THE POWERS REGULATOR CO., SKOKIE, ILL.
Offices in over 50 Cities, see your Phone Book • Established in 1891

If you write maker identify as **IEN - 12192**

View of Pines Semi-Automatic in large aluminum plant bending extruded automobile window frames. Output easily meets production line capacity.

PINES Hydraulic SEMI-AUTOMATIC BENDER

FOR PRODUCTION, SHORT-RUN AND MAINTENANCE JOBS, YOU'LL LIKE THESE PINES FEATURES

1 Simple Tooling — provides an efficient, economical method of handling a variety of work not adaptable to fully automatic equipment.

2 Safe, Dependable Accuracy — smooth, adjustable hydraulic power forms neat bends, assures uniform results, cuts scrap losses.

3 Easy to Set Up and Operate — simple tooling adjustments, easy toggle clamping, push-button operation, convenient hand wheel for angle-of-bend selection.

4 Saves Floor Space — compact, self-contained hydraulic unit includes motor, pump, reservoir. Occupies less floor space — 3' x 7'

SPECIFICATIONS
- Std. Max. Capacity — 1" O.D. 16-ga. steel tube.
- Max. Rad. of Bend — 8½" to centerline.
- Tube Lengths — up to 5 ft. std. (Provision for longer lengths if required).
- Speed — 29 rpm.
- Working Height — 35".
- Motor — 3 hp.
- Pump — 7 gpm.
- Optional — Adjustable gauges, mandrel for critical bends.

Write for More Facts... Get full details on this dependable, economy model Pines Bender designed to handle a variety of pipe, tube, bar, and extrusion bending work at speeds up to 300 bends per hour.

PINES ENGINEERING CO., INC.
Specialists in Tube Fabricating Machinery
BENDING • DEBURRING • CHAMFERING • THREADING MACHINERY

635 WALNUT
AURORA • ILLINOIS

If you write maker identify as **IEN - 12193**

Saves work on many jobs—does the work of both friction and rubber tape. Resists abrasion. Resistant to weather, oils, greases and many corrosive chemicals. Two sizes ¾" x 20' and ¾" x 60'.

IDEAL INDUSTRIES, Inc.
1108 Park Avenue, Sycamore, Illinois
Please send me FREE sample of IDEAL Electrical Tape.
Name
Company
Address
City Zone State

If you write maker identify as **IEN - 12194**

SAVE on Cut-off Costs!

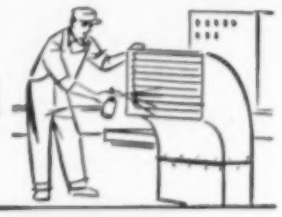
SHOWN—Model M equipped with bar feed

. . . with this FULLY Automatic Equipment!

- Our Models M, D and J feature simplified hydraulic controls for both full and semi-automatic operation. Minimum maintenance, maximum blade life assured!
- Top results are yours on all jobs whether high speed or regular blades are used.
- Capacities range from 9" x 18" to 24" x 24".
- Also available: Model H hinge-type, economy model (9" x 16" capacity) and a complete range of accessories.
- Send today for literature on this line-up of superior metal cutting band saws.

W. F. WELLS & SONS
Three Rivers, Michigan

If you write maker identify as **IEN - 12195**



MADE FOR MAINTENANCE!

BECKER "53"
CO₂ POWERED INDUSTRIAL
SPRAY GUN
Completely Portable

ONLY $19.95 with 10 cartridges

The new, versatile Becker Model "53" Sprayer operates without hoses, cords, or compressors. Sprays protective coatings, paints, solvents, cleaners, oils, etc. Powerful low-cost CO_2 cartridge sprays up to one 21-ounce containerful. With special attachment, tank can be charged from air hose (for liquids atomizing at 120 psi). Nozzle removes without pressure loss, adjusts from spray to stream. Acme-threaded neck closure, rugged brass and stainless inserts, cast aluminum head. See your Distributor or order direct postpaid.

SULLIVAN-BECKER CO., Dept. 193-L, KENOSHA, WISC.

If you write maker identify as **IEN - 12196**

"We've reduced our scrubbing time from 70 to 7 man-hours ... and our floors have never before been so clean!"

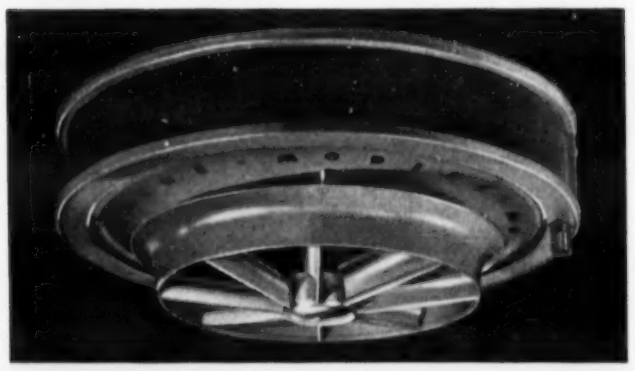
— Says foreman of BURNY BROS. BAKERY, CHICAGO

Burny Bros. garage and stockroom floors get daily scrubbing with a *Job-Fitted Combination Scrubber-Vac* and *Setol Cleanser. They're an unbeatable team* to speed the cleaning of oily, greasy floors. *Here's why:* A *Scrubber-Vac* applies the cleanser, scrubs, and picks up—*all in one operation! Job-fitted* to specific needs, the machine provides maximum brush coverage. Its teammate, *Setol Cleanser,* emulsifies grimy oil and grease *instantaneously* for fast, thorough removal by the machine's powerful vac. The *Scrubber-Vac* shown above, *Finnell's 213P,* cleans up to 8,750 sq. ft. per hour! For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 2611 East St., Elkhart, Ind.

FINNELL SYSTEM, INC. *Originators of Power Scrubbing and Polishing Machines* — 50th Anniversary FINNELL — BRANCHES IN ALL PRINCIPAL CITIES.

If you write maker identify as **IEN - 12197**

Lighter in weight...easier to install...



IT'S MODINE'S GREAT, NEW VERTICAL UNIT HEATER

YES, here's another Modine achievement in unit heater design. Outstanding heating performance, rugged, durable construction with a major reduction in weight and bulk. New light-weight means important savings in installed cost. Largest model . . . 2540 Edr . . . *weighs only 284 lbs.* Compare this with any other make and you'll appreciate the difference. Get all the facts from the Modine representative listed in your classified phone book. Or write Modine Mfg. Co., 1503 DeKoven Ave., Racine, Wis.

Modine UNIT HEATERS

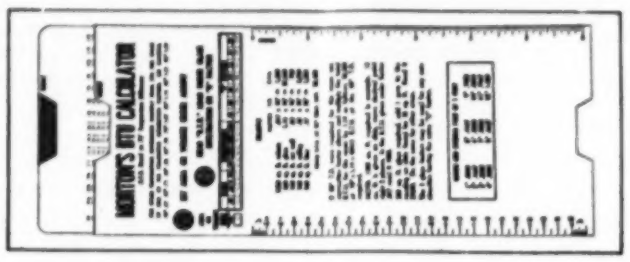
Modine steam and hot water unit heaters are also built in horizontal delivery models (left). Ask for Bulletin 153 for complete information on both types.

USEFUL INFORMATION
(Continued)

If you write maker identify as **IEN - 12198**

HEATING . . Plastic slide calculator reads btu. heat losses to determine building requirements

Paul S. Morton Engineering Services
607-11 Bangor Road, Lawrence, Mich.



Area or volume of a space to be heated is set at a window on the face of new "Morton's B. T. U. Calculator". Heat load then can be read direct at one of 13 other windows, three for glass areas, four for infiltration, and seven for "U" factors from .06 to .19. The calculator is set up for 70 deg. F. temperature difference with correction factors for other amounts. It measures 3¾ by 9 inches. List price with case is $3.75.

If you write maker identify as **IEN - 12199**

LUBRICATING . . Cardboard slide selector on cutting and grinding fluids for 38 metals

D. A. Stuart Oil Co.
2745 S. Troy St., Chicago 23, Ill.

Set the indicator of new Cutting and Grinding Fluid Selector at the desired material to be machined. Then you can read at windows the recommended lubricants for threading and cutting in screw machines and in lathes, also for milling, drilling, boring and reaming. Materials include steel, stainless steel, magnesium, brass, bronze, copper, aluminum, Monel metal.

If you write maker identify as **IEN - 12200**

MANAGEMENT . . How the company operates is described interestingly in its 50-year book

Standard Pressed Steel Co.
Box No. 732, Jenkintown, Pa.

People, products and progress are the major topics in 24-page book, "50 Years—a Start for the Future". People from workers to salesmen are described in their relation to the company. Product manufacture, production equipment, applications are shown by pictures. Progress is noted in plant expansion, material handling, products under development.

If you write maker identify as **IEN - 12201**

MOTORS . . Changes in dimensions from new NEMA standards are described in house paper

Wagner Electric Corp.
6488 Plymouth Ave., St. Louis 14, Mo.

Major article in the September issue of company's house publication, "Wagner Circle", tells about changes in electric motor dimensions resulting from new NEMA standards on integral-horsepower motors in Frames 326 and smaller. You may be interested in the tables of new frame sizes and dimensions for your reference file.

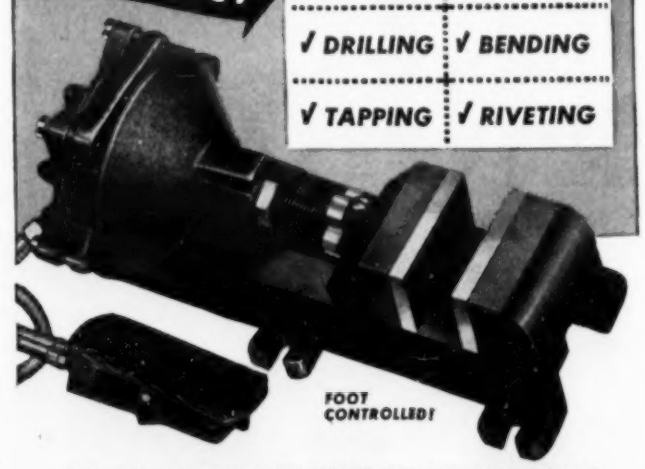
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 12202**

SPEEDY AIR VISE

SPEEDS UP

- ✓ MILLING
- ✓ PUNCHING
- ✓ DRILLING
- ✓ BENDING
- ✓ TAPPING
- ✓ RIVETING



GRIPPING FORCE 15 TIMES AIR LINE PRESSURE

Speedy Air Vise helps you do dozens of operations faster, better, cheaper—by air pressure! Foot control valve opens and shuts vise instantly, leaving *both* hands free to produce *more!* Jaw opens up to 3 inches, holds castings, parts, jigs, etc. Compact and trouble-free.

Complete with Foot Control, Air Hose and *Fittings*.....only **$36.00**

Prompt Delivery from Your Supplier or Write Direct

W. R. BROWN CORPORATION • 2645 N. Normandy Avenue, Chicago 35, Ill.

AIR REGULATORS • AIR FILTERS • AIR GUNS • PORTABLE COMPRESSORS

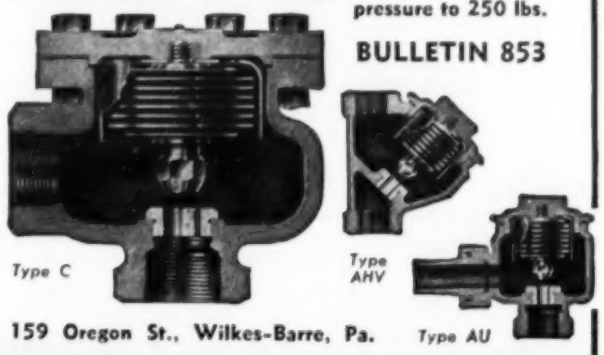
If you write maker identify as **IEN - 12203**

Nicholson Steam Traps Test

MAXIMUM CAPACITY PER $ COST

One of the nation's largest plants recently conducted comparative tests of steam traps. They showed that Nicholson traps "provide lowest initial cost for handling large amounts of condensate." Other Nicholson features: operate on lowest temperature differential; only one moving part; freeze-proof. See why leading plants are increasingly standardizing on Nicholsons for faster heat transfer. 5 types: size ¼" to 2"; pressure to 250 lbs.

BULLETIN 853



159 Oregon St., Wilkes-Barre, Pa.

W. H. NICHOLSON & CO.
TRAPS · VALVES · FLOATS

If you write maker identify as **IEN - 12204**

ONE MILLION RELAYS

Over 1000 Types

24 HOUR DELIVERY FROM OUR STOCK!

- Standard, Respected Brands
- Brand New, Boxed
- Inspected and Guaranteed
- Priced to Your Advantage

Write for New 16 Page Catalog

Our relay stock, which is the world's largest, has been carefully built up over a period of several years. Nothing but first run, professionally selected items are carried.

Send us your relay requirements. You will receive immediate quotations.

samples on request. *Phone, Wire or Write*

Relay Sales — SEeley 8-4146 — 4721 W. MADISON STREET — DEPT. NO. 9 — CHICAGO 44, ILLINOIS

If you write maker identify as **IEN - 12205**

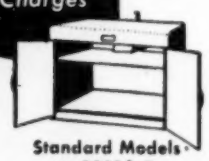
NOW AVAILABLE

Grieve-Hendry STANDARD CABINET OVENS

No Engineering Charges

Cross and Vertical Flow

• Large capacity • Perfect Temperatures to 650° and 850° F. • High volume pressure blower forced circulation • Lowest cost source of heat processing capacity • Latest convenience features and safety devices.



Standard Models to 1000° F.

$895.50 and up

Export Dept. 306 W. Washington Blvd. Chicago 6, Illinois

PROMPT SHIPMENT

Write for Bulletin

GRIEVE-HENDRY COMPANY, INC.
1815 W. Lake Street, Dept. IEN • Chicago 12, Ill.

If you write maker identify as IEN - 12206

INK MARK

METALS, PLASTICS AND OTHER MATERIALS WITH —

ACRO A. O. & A. X. INKS

PRINT METALS

PLASTICS AND OTHER MATERIALS WITH — ACROMARK PRINTING MACHINES

STAMP

STEEL TOOLS, PARTS AND PRODUCTS WITH OTHER ACROMARK MARKING AND NUMBERING MACHINES

WRITE TODAY FOR MARKING INFORMATION NO CHARGE FOR OUR ENGINEER'S RECOMMENDATION.

The ACROMARK Company

7 MORRELL STREET, ELIZABETH 4, N. J.

If you write maker identify as IEN - 12207

FOSTER

Chrome Sleeve Quick Detachable

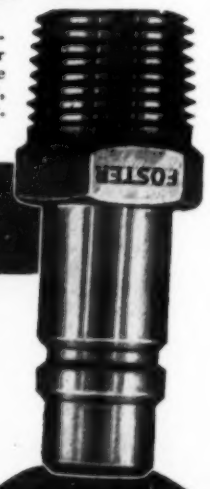
COUPLERS

AND HOSE FITTINGS

Price...Lower than most
Quality...None Better
Delivery...Immediate

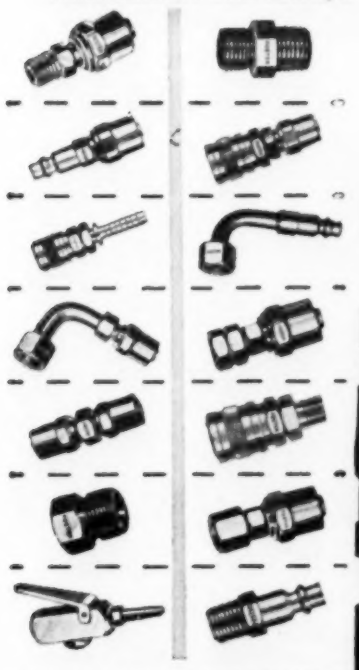
- Reusable Socket Heads for Lower Replacement Cost!
- One Second Hookup Under Pressure!
- Tight-Seal, Dirt-Proof Construction! Leak-proof!
- Instant Automatic Flow! Swivel Action!

Foster Quick Detachable Couplers for pneumatic and hydraulic applications give longer service and cost less than other comparable couplers. Delivery of any order, large or small, is immediate. An order to Foster is faster. Write Dept. 3.

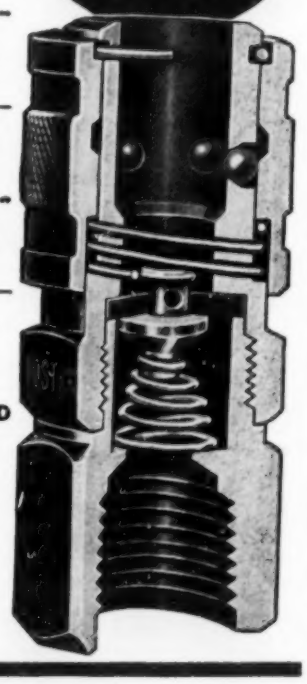


FOSTER MFG. COMPANY, INC.
2850 Gravois • St. Louis 18, Mo.

FOSTER FITTINGS ARE AVAILABLE THROUGHOUT THE NATION



Send for Free CATALOG



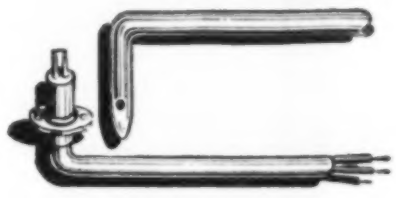
ASK US WHY WE RECOMMEND

FOSTER PLASTIC AIR HOSE

If you write maker identify as IEN - 12209

TESTING . . Custom designed probes for gas pressure, temperature, velocity

Source: AERO RESEARCH INSTRUMENT CO.
1903 N. Hermitage Ave., Chicago 22, Ill.



Designs to order

Illustrated are two typical units in a new line of probes to actuate test instruments in measurement of gas pressure, temperature, velocity, direction. The company is prepared to supply standardized units and to design special ones to test jet engines, for heat transfer studies in the field of nuclear energy, to measure high gas temperatures by means of thermocouples and gas flow through two orifices. It also can design complete temperature and pressure measuring equipment.

If you write maker identify as IEN - 12210

ADHESIVE . . Epoxy resin and catalyst for metals and ceramics

Source: MIRACLE ADHESIVES CORP.
214 E. 53rd St., Dept. 235, New York 22, N. Y.

Two ounce jars to 50 gal. drums

Bond strength, to 2,000 lb. per square inch in shear, has been reached on certain types of joints employing the new Adweld adhesive No. W799. It is a two-part material consisting of epoxy resin, light tan in color, and a separate catalyst. The catalyst is added to the resin prior to use. After the two have been mixed the pot life is about 1 hour. A joint of about 1/32 in. in thickness results in maximum strength.

Curing takes place at room temperature or can be accelerated by heating to 200 deg. F. for 10 to 20 minutes. When no heat is employed, maximum strength is secured in 48 hours. An assembly can be packed and shipped after 12 hr. at normal temperatures.

The adhesive is resistant to attack by water, weather, galvanic action, most chemicals, acids and alkalis. It remains serviceable in a temperature range from minus 40 to plus 500 deg. F. Coverage is 50 to 60 sq. ft. per gallon. Shelf life is indefinite prior to mixing with catalyst.

If you write maker identify as IEN - 12211

SPREADING . . Trailer assembly to handle salt, sand, cinders, calcium

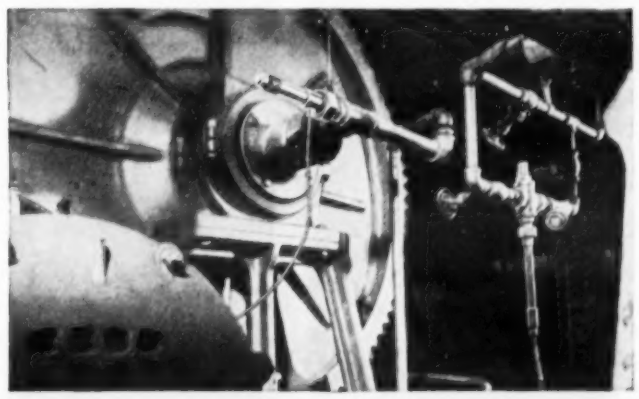
Source: BAUGHMAN MFG. CO.
10 Baughman Ave., Jerseyville, Ill.

Adjustable action

Model SC-52 is a new pull-type spreader to attach to the rear of a truck for movement over outdoor walks and driveways. It spreads granular materials to melt ice and snow or to provide a skid proof surface. The spreading mechanism is driven by the rubber tired wheels for even distribution over the ground.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12212



Paint Grinding Controlled

Picture shows one of a battery of pigment grinding mills at the plant of Grand Rapids Varnish Corporation, Grand Rapids, Mich.

The rotating drum (or pebble mill) is equipped with a jacket through which cooling water is circulated.

This water is held at the desired temperature by a Sarco self-operated cooling control, Type TR-21R.

These simple, inexpensive regulators are available in sizes ½" to 8", and are widely used to control the temperature of cooling water or brine in air conditioning, cold storage, still condensers, internal combustion engines, compressors, etc.

Write for Catalog 700-12 to *Sarco Company, Inc., Empire State Bldg., New York 1, N. Y.* *Advt. 606*

If you write maker identify as IEN - 12213

New MERCURY "BANTY" GAS TRACTOR

Available in Two Capacities: 2300 and 3000 lbs. DBP.

Model 460

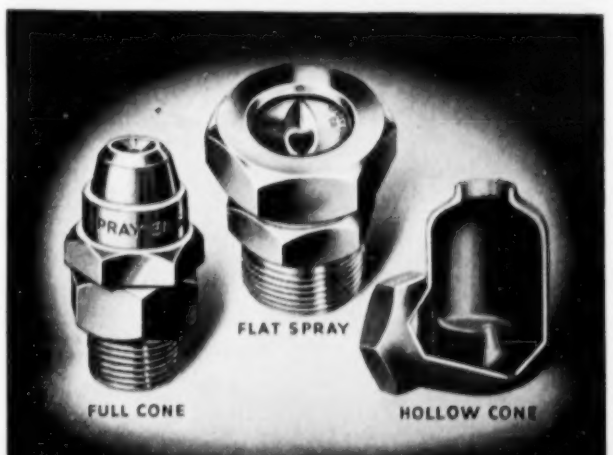
Over 41 years experience in the manufacturing, designing, and installation of material handling equipment.

MERCURY
FORK TRUCKS TRACTORS TRAILERS

Here it is...the completely new MERCURY "Banty." A small, rugged 4 wheel gasoline tractor with a turning radius of only 62". Features new double reduction drive axle with demountable wheel rim and tire assemblies... self-energizing hydraulic brakes ...new semi-elliptic spring suspension, front and rear...cushion or pneumatic tires.

For complete information write:
MERCURY MANUFACTURING COMPANY
4132 S. Halsted St., Chicago

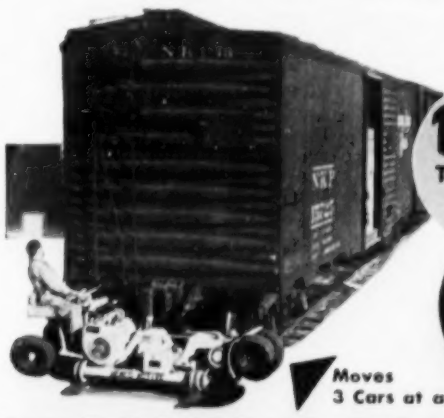
If you write maker identify as IEN - 12214



SPRACO NOZZLES

Write for NOZZLE CATALOG to
SPRAY ENGINEERING CO.
110 CENTRAL STREET • SOMERVILLE 45, MASS.

If you write maker identify as IEN - 12215



Power TO FIT THE JOB

Power TO FIT THE MACHINE

Moves 3 Cars at a Time

WISCONSIN-POWERED HEMCO-MOTIVE *Switching Unit*

Here's a practical "locomotive" for switching and spotting cars on your sidings—at a great saving in man-hours, plus increased safety and ever-ready convenience.

A 25 hp. Model VF4 Wisconsin Heavy-Duty Air-Cooled Engine furnishes dependable power for all phases of HEMCO-MOTIVE operation . . . off-track mobility, positioning on rails, operating the hydraulic lift that "couples" the unit to the car, and handling all switching and spotting maneuvers . . . moving up to 3 loaded freight cars at a time. Hemco Manufacturing Inc., Argonia, Kansas, is the builder.

It's another typical Wisconsin Air-Cooled Engine original equipment application—power to fit both the JOB and the MACHINE.

WISCONSIN MOTOR CORPORATION
World's Largest Builders of Heavy-Duty Air-Cooled Engines
MILWAUKEE 46, WISCONSIN

If you write maker identify as **IEN - 12216**

QUICK...EXACT
Speed Changing

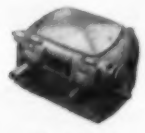
IT takes only a few minutes to change speed with a *Vari-Pitch* stationary control sheave. Takes even less time with motion control *Vari-Pitch* sheaves. But with both types, you get an infinite number of speeds from one sheave. This permits setting sheave for exact speed needed. And once speed is set it will not change.

One phone call brings you everything needed for your drive—sheaves, belts, motor, base, and starter. Call your nearest Allis-Chalmers authorized distributor or district office, or write Allis-Chalmers, Milwaukee 1, Wisconsin.

ALLIS-CHALMERS Variable Speed DRIVES

Standard Range Vari-Pitch Sheaves for A, B, C, D, and E belts—speed variation 15% to 25% per sheave.

Wide Range Vari-Pitch Sheaves for Q or R wide belts. Speed variation up to 2 to 1.



Vari-Pitch Speed Changer provides up to 3.75 to 1 speed range.

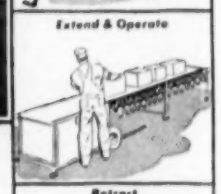
A-4122

Vari-Pitch is an Allis-Chalmers trademark.

ALLIS-CHALMERS

If you write maker identify as **IEN - 12217**

MODERN TIME AND COST SAVERS BUILT BY... Standard GRAVITY & POWER CONVEYORS



SAVE TIME LOADING — UNLOADING WITH THE

E-X-T-E-N-D-O-V-E-Y-O-R

This compact, mobile, easily maneuverable power-belt conveyor unit extends to 46 ft. in either direction and retacts to 9 ft. 10 in. Reaches into cars, trucks, trailers. Handles boxes, bags, bundles, cartons, crates, cases weighing up to 150 lbs. Available in two models — 1 way stretch and 2 way stretch — and 4 sizes. Write for Extendoveyor Bulletin— Dept. IEN-113.

STANDARD CONVEYOR COMPANY
General Offices: North St. Paul 9, Minn.
Sales and Service in Principal Cities

If you write maker identify as **IEN - 12218**

helps prevent colds

Production line and office workers can now work in absolute comfort

The new low priced ELECTRO MAT throws off a gentle warmth that keeps workers healthy, happy and comfortable. 14" x 21" portable foot warmer is safe and economical . . . consuming less power than a 75 Watt light bulb. It is made of high quality neoprene rubber.

Attention Employers

Increase the efficiency of your employees and help prevent colds which cause absenteeism by equipping each employee with an Electro Mat.

Mail check or money order today
Only
$6.95
f.o.b. factory

IMPORTANT SAVING: If 6 or more Electro Mats ordered price is only $5.95
Please send me: ☐ Electro Mat at $6.95 each.
Enclosed is my check ☐ money order ☐
☐ C.O.D. I am enclosing $1.00. Will pay postman balance of $5.95 plus C.O.D. and freight charges.
Name _____
Street _____ Zone ____
City _____ State _____
10 Day Money Back Guarantee
INTERSTATE RUBBER PRODUCTS CORP., Dept. 111
908 Avila St., Los Angeles 12, California

Dealer Inquiries Invited.

USEFUL INFORMATION
(Concluded)

If you write maker identify as **IEN - 12219**

LUBRICATING . . Booklet on machine tools describes their construction, operation and maintenance

Shell Oil Co.
50 West 50th St., Dept. IEN, New York 20, N. Y.

Basic principles of machine tools are reviewed by four introductory sections in new 80-page booklet, "Machine Tools and Their Lubrication". These include history and development, methods of controlling power and directing force, types of motion and degrees of friction, role of lubricant in modern machine-tool operation and maintenance.

Specific descriptions then follow on individual machines including the lathe, milling machines, grinders, drills, broaches, tapping machines, planers and shapers, contour cutting machines. There is a section on machine-tool hydraulics and one on lubrication methods and lubricants.

Intended purpose of the booklet is not as a shop manual on machine-tool lubrication, but instead as a discussion of the fundamental factors in the construction, operation and maintenance of modern machine tools. The booklet is the second in the Volume II series of "Panorama of Lubrication".

If you write maker identify as **IEN - 12220**

RESEARCH . . Automatic fabrication of electronic equipment described in 8-page bulletin

Stanford Research Institute
Dept. IEN, Stanford, Calif.

Etched circuits, dip soldering, automatic assembly of components into an electronic circuit, are principal subjects in the September issue of "Research for Industry". The bulletin summarizes a three-year study of existing methods and development of an automatic production line for electronic products. Emphasis is placed on flexibility and economy.

If you write maker identify as **IEN - 12221**

SEALING . . Information on design and construction of shaft seal in 16-page bulletin

Byron Jackson Co.
1902 E. 65th St., Los Angeles 1, Calif.

Transcript of an available motion picture is given in Bulletin 153-10000 on the company's mechanical shaft seal. It uses schematic drawings and a minimum of text to show principal types of shaft seals, then goes into detail on the company's balanced single seal as to design, construction materials, assembly, applications, removal.

If you write maker identify as **IEN - 12222**

STEEL . . Plastic calculator for weld strength in steel plate fabrication

Lukens Steel Co.
501-5 Lukens Bldg., Coatesville, Pa.

Nine scales and two slides are integral with new Weld Strength Calculator. Applied load is set against proper stress for a joint. Size of weld then is read against length of weld or vice versa. Weight of a weld for size or length can be read for a 45-deg. fillet, 18-deg. average gap or 45-deg. Vee joint. Stress values are 2,000 to 20,000 lb. and applied loads range from 9,000 to 450,000 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 12223**

WITH *WATSON-STILLMAN*
DOUBLE ACTING AIR ENGINE PUMP

Connect this light efficient, portable unit to your low pressure air line. Result — Pressures for all types of Hydrostatic testing.

Can also be used for operation of small Hydraulic machinery and jacks. Available in discharge capacities up to 6000 p.s.i.

Write for literature.

WATSON-STILLMAN FITTINGS DIVISION
H. K. PORTER COMPANY, INC.
141 Aldene Rd., Roselle, New Jersey

9-0-15

If you write maker identify as **IEN - 12224**

Low Temperature Melting
CERRO ALLOYS
can save you
Time • Labor • Money

...If you—

- ☐ make stamping dies
- ☐ locate bearings, non-moving parts in machinery
- ☐ make chuck-jaws
- ☐ make molds for plastics
- ☐ proof cast forging molds, dies, etc.
- ☐ bend metal molding and tubing

For details, check items desired, clip ad to your letterhead and mail to:

CERRO DE PASCO CORPORATION
Dept. 6, 40 Wall St., New York 5, N. Y.

If you write maker identify as **IEN - 12225**

If You Require an
ALL WOOL WOVEN FELT

- FOR RUBBING OR POLISHING PURPOSES,
- FOR MOUNTING MACHINES TO ELIMINATE NOISE & VIBRATION,
- FOR USE ON CUTTING, ASSEMBLING OR INSPECTION TABLES,
- FOR COVERING TENSION ROLLERS,
- FOR USE ON DRUMS, UNDER SANDPAPER, IN THE FORM OF STRIPS, FOR SEALS, TO PREVENT LEAKS, OR IF YOU NEED AN ALL WOOL FELT FOR SOME OTHER PURPOSE.

Please write for samples of our Odd New All Wool Woven Felts that we can furnish at prices far below the cost of manufacture. We are direct Mill Representatives for the disposal of Odd Felts. You may be able to use some of our Odd Felts to very good advantage. Our Odd Felts are available in large rolls, in various textures and thicknesses, from 1/8" up to a full 1/2" in thickness. We can arrange to furnish almost any amount you may care to order.

HENRY M. NAGEL
P.O. BOX #125 BOULDER, COLORADO

If you write maker identify as **IEN - 12226**

NOLAN ONE-MAN
CAR DOOR OPENER

Opens Doors in 20 seconds or less!

The Nolan Car Door Opener gives one man a tremendous amount of pulling energy, to get the most stubborn, hard-rolling door wide open in a hurry! New chain has 2000 lbs. tensile strength.

No gangs needed. No mangled limbs or loss of life. A few quick pulls on anchor chain gets any door open in a jiffy. The NOLAN saves its low initial cost in first hour of operation.

New safety features make the Nolan 1-Man Car Door Opener a more necessary labor-saving, money-saving help than ever before.

MANY THOUSANDS IN CONSTANT DAILY USE! FREE LITERATURE.

Order one or more NOLAN Model-H Car Door Openers now. Catalog on request.

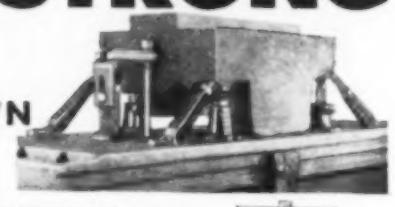
$37.50
F.O.B. Bowerston

THE NOLAN COMPANY • 114-C Pennsylvania St., Bowerston, Ohio

If you write maker identify as IEN - 12227

ARMSTRONG

SET-UP *and* HOLD-DOWN TOOLS



ARMSTRONG Set-up and Hold-down Tools reduce setting-up time—keep men and machines producing. Designed for use on planers, drill presses, milling machines, etc., they hold work securely and rigidly, and thereby reduce spoilage and prevent costly accidents.

Your local Armstrong Distributor carries ARMSTRONG Set-up and Hold-down tools in stock in sizes for every operation. Stop haphazard setting-up methods. Provide each of your machines with a full complement of ARMSTRONG Set-up and Hold-down Tools.

Write for circular

ARMSTRONG BROS. TOOL CO.
"The Tool Holder People"
5243 W. Armstrong Ave. • Chicago 30, U. S. A.

If you write maker identify as IEN - 12228

This Electrical Reporter Stays on the Tough Jobs Longer...

Added Evidence that—

Everyone Can Count on VEEDER-ROOT

Compact and rugged . . . this electrically operated reset counter is specially designed for tough jobs that demand longer counter life.

Here's another instance of the *infinite applicability* of Veeder-Root *Count*rol — electrical, mechanical or manual. And here's another instance, too, of the endless resourcefulness of Veeder-Root engineering, and the ability to design a *complete counting package* that fits the job fully and exactly. Now . . . what's *your* problem?

VEEDER-ROOT INCORPORATED
"The Name That Counts"
HARTFORD 2, CONNECTICUT

Chicago 6, Ill. • New York 19, N.Y. • Greenville, S.C.
Montreal 2, Canada • Dundee, Scotland
Offices and Agents in Principal Cities

If you write maker identify as IEN - 12230

CONVEYING . . Forged link chain, 2½ in. pitch, assembles by hand

Source: JERVIS B. WEBB COMPANY
8915 Alpine Ave., Detroit 4, Mich.

Two years in test service

Flexibility in four directions, in limited amount to either side, and ability to turn a minimum radius of 30 in., in the line of pull, characterizes this new Duraflex chain. The drop forged links are held together by pins that are inserted by hand and then pulled into place in key slots where they will remain until removed by hand. Worn links can be replaced quickly. The chain can be cleaned with a steam hose. Ultimate strength is 37,500 pounds. The new chain is interchangeable with most riveted chains of 2½-in. pitch.

If you write maker identify as IEN - 12231

MARKING . . Silver ink to print clearly on dark materials

Source: ADOLPH GOTTSCHO INC.
6-D Terminal Road, Hillside 5, N. J.

Technical data upon request

Fiber containers, cartons, slab rubber, siding materials, sponge rubber, plastic sheet, rubber-impregnated and twill fabrics are representative materials on which characters can be printed brightly and with excellent opacity with the new silver ink. It is known as No. 3-P-0972. It is intended for use in the company's line of printing and imprinting machines.

If you write maker identify as IEN - 12232

VALVE . . Solenoid operated, three way 1,000 lb. hydraulic, ⅛ in.

Source: SKINNER ELECTRIC VALVE DIVISION
93-97 Edgewood Ave., New Britain, Conn.

For remote control

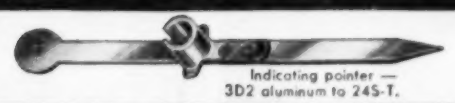
Model V10-1000 is a new miniature solenoid operated hydraulic valve. It is available in normally open or normally closed design. It can be installed for two or three-way operation in connection with single and double acting hydraulic cylinders and for pilot control of larger three and four-way hydraulic valves.

The valve piston and bore are precision ground. Internal parts are stainless steel. Effective orifice diameter is 3/32 inch. Overall dimensions are 1⅝ by 3 7/16 inches. Weight is 1½ pounds. Electric characteristics are subject to specification.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12233

parts like these



Indicating pointer — 3D2 aluminum to 24S-T.

are easy to weld with

Self threading needle — full-tempered steel.

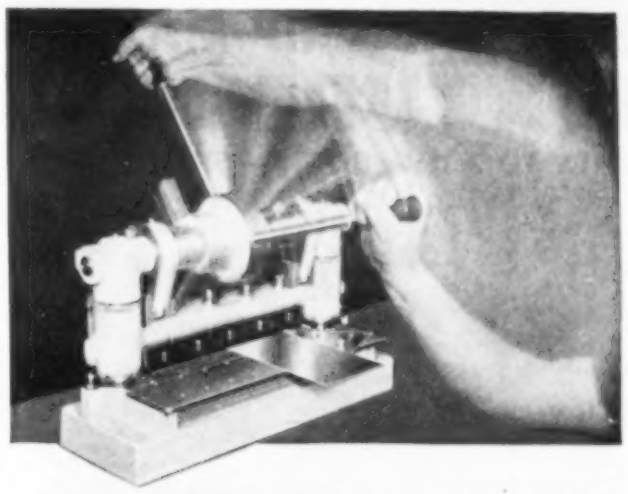
RAYTHEON WELDPOWER®

The delicate job of joining two parts of a tempered steel self-threading sewing needle — or positioning the indicating pointer to its hub — is no trouble at all for a Raytheon Weldpower Unit. Operators can be trained in a matter of hours to turn out strong, clean welds — even on difficult or "impossible" jobs — on a production basis. Find out about this new, economical method of joining ferrous, non-ferrous or dissimilar metals. Send samples or write for details. Address Dept. 6270-IN-11.

Raytheon Condenser Weldpower Control Units are available in three sizes and with appropriate Weldpower Heads.

RAYTHEON
Excellence in Electronics
RAYTHEON MANUFACTURING COMPANY
Equipment Sales Division, Waltham 54, Mass.
DISTRICT OFFICES: Boston • New York • Cleveland • Chicago
New Orleans • Los Angeles (Wilmington) • San Francisco • Seattle
INTERNATIONAL DIVISION, 19 RECTOR STREET, NEW YORK CITY

If you write maker identify as IEN - 12234



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Here's Why You'll Want a Versatile DI-ACRO SHEAR

- **PRECISION**—strips less than .025" wide accurately sheared, parts exactly duplicated.
- **CUTTING SPEED**—rivals that of power machines.
- **RATED CAPACITY**—16 gauge.
- **EASY TO OPERATE**—a woman can operate it.
- **PORTABLE**—easy to move.
- **FOUR MODELS**—6 to 24 inches wide. Four power models.
- **ENGINEERING SERVICE**—always at your disposal.
- **RUGGED**—one year warranty.
- **DELIVERY**—excellent.
- **COST**—that's good too.

SEND FOR 32-PAGE CATALOG

di-acro PRECISION METALWORKING MACHINES

O'NEIL-IRWIN MFG. COMPANY
718 8th Ave. Lake City, Minn.

If you write maker identify as IEN - 12235

THEY GRIND--NOT JUST RUB!

The RPM's stay up while grinding . . . not only when the grinder runs idle.

It is an established fact that surface speeds must stay up to approximately a mile a minute if you want to grind . . . not just rub. Every mechanic knows this, but an inexperienced buyer may order tools that maintain proper grinding speeds only when running idle. The speed of Kipp air grinders drops but slightly when put to work. That means better work . . . longer wheel life.

MADISON-KIPP CORP.
224 Waubesa St., Madison, Wis., U.S.A.

Write for KIPP Air Tool Catalog AT 3006

If you write maker identify as IEN - 12236

you save 50% in TANK HEATING and COOLING with PLATECOIL

(REPLACE PIPE COILS)

- ★ You SAVE 50% in tank SPACE
- ★ You SAVE up to 50% in initial COST
- ★ You have 50% LESS WEIGHT to handle
- ★ You SAVE 50% in maintenance LABOR as plates are changed from outside the tank without dumping solution

. . . besides all these you get faster heating or cooling. Take advantage of the engineering assistance offered by Kold-Hold to help you with your heat transfer problems.

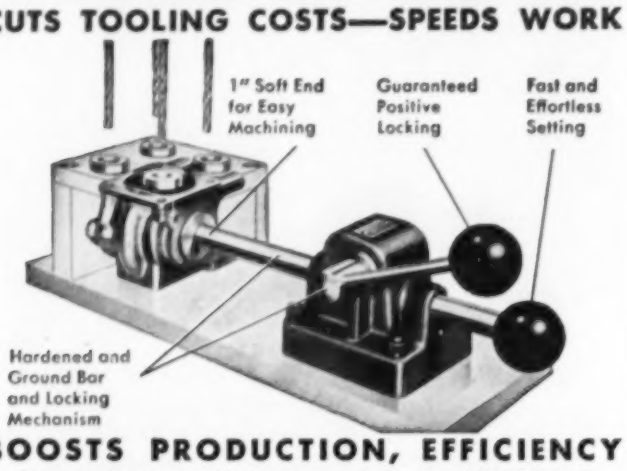
Send for complete technical manual and descriptive Bulletin No. P56

PLATECOIL Division
Tranter Mfg. Inc.
LANSING 4, MICHIGAN

If you write maker identify as IEN - 12237

HEINRICH "GRIP-MASTER" FIXTURE LOCK

CUTS TOOLING COSTS—SPEEDS WORK



BOOSTS PRODUCTION, EFFICIENCY

Now—at the request of industry—we offer the new "Grip-Master" Screwless Fixture Lock, applicable for fixtures and jigs used in drilling, milling operations, etc. It incorporates the same high-quality locking mechanism proved by industrial use in the famous "Grip-Master" Screwless Drill Press Vise. Pays for itself quickly by increasing production, cutting tooling costs, etc. See your Dealer, or write for details.

NEW CATALOG FREE

Be sure you have a complete Heinrich Tool Catalog in your files. Your copy will be sent free upon request.

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PRODUCT NATIONAL MACHINE TOOL CO.

DEPT. 173-L • RACINE, WIS.

DRILL PRESS VISES • FIXTURE LOCKS • NIBBLERS
PUNCHES • ROD CUTTERS

If you write maker identify as IEN - 12238

A Complete Line of Low Voltage CIRCUIT BREAKERS

Available in ratings from 10 to 600 amperes and voltages up to 600 volt AC, 250 volt DC, either open type or with surface or flush-mounted enclosures, of semi-dust-tight, water- and dust-tight design. Accessories available for conversion to non-automatic, remote tripping, bell alarm and other special requirements.

Superior design and construction features enabled Trumbull Electric to develop U. S. Navy-approved breakers for shipboard service. Take advantage of their superior protection, convenience, permanence in your load center, panelboard, switchboard, industrial, commercial or residential applications.

Available through leading Distributors everywhere. Write direct for literature and technical information.

Type TQL Actual Size

GENERAL ELECTRIC

TRUMBULL COMPONENTS DEPARTMENT
PLAINVILLE, CONN.

If you write maker identify as IEN - 12239

SAVE Maintenance AND Towel Costs WITH

Sani-Dri ELECTRIC Hand or Hair Dryers

Save valuable maintenance time and eliminate continuing towel expense. New, improved features make Sani-Dri faster drying . . . provide quick, automatic hand or hair drying service 24 hours a day year after year! Sani-Dri is a permanent solution to washroom sanitation and drying problems—and SAVES UP to 85% of WASHROOM COSTS!

All Sani-Dri Electric Dryers are GUARANTEED, and have carried the Underwriter's Seal of Approval for over 18 years!

SEND FOR NEW BROCHURE showing all models and installation pictures.

Distributors in Principal Cities
THE CHICAGO HARDWARE FOUNDRY CO.
"Dependable Since 1897"
34113 Commonwealth Ave. • North Chicago, Ill.

If you write maker identify as IEN - 12240

SNOWPLOW . . Attachment assembly for company's engine driven dump truck

Source: PRIME-MOVER COMPANY
52 Sampson St., Muscatine, Iowa

For outdoor runways

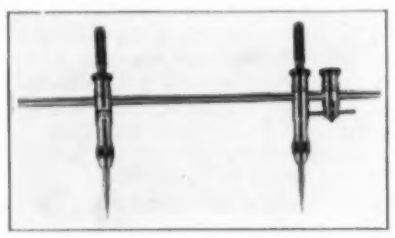
A spring type counterbalance has been added to the attachment snow plow blade, previously described IEN-1455-53. The new design permits effortless raising and lowering the blade, which measures 50 in. in width. It can be set to an angle to either side.

While the plow is being employed, the 10 cu. ft. dump bucket, on the truck, can be loaded with ballast to provide traction. By employing sand as ballast the operator also has a source for nonskid material that he can sprinkle by hand as he proceeds. The plow can be attached and removed quickly for normal use of the truck with its bucket and either of two interchangeable flat load carrying platforms. Drive is by a 4-cycle air cooled Wisconsin engine. Operation is at a fast walk. Turning radius is 33 inches. Overall width is 31½ inches.

If you write maker identify as IEN - 12241

GAGE . . Steel beam trammel has point to point capacity to 36 in.

Source: LUFKIN RULE CO.
1948 Hess Ave., Saginaw, Mich.



Free turning grips

The two heads in this Series-180 trammel are mounted on a steel beam. They are fitted with spring frictions to prevent them from sliding off the beam when the clamping nuts are loosened. Clamping applies against a flatted face so the heads will not rotate on the beam. The scriber points are hardened. One of the heads is fitted with a fine thread adjusting screw for final set-up.

Three beams measure 10½, 14½ and 20 in. in length. List price is $9 to $10.40. A 20-in. extension beam is available also for maximum spread to 36 in. between the scriber points. Needle points, pen attachments, steel points, ball point attachments and a lead holding chuck are available as accessories.

If you write maker identify as IEN - 12242

HOSE . . Cardboard slide selector on rubber-covered braid-reinforced hydraulic hose

Republic Rubber Division
1950 Albert St., Youngstown 1, Ohio

Two windows appear in the face of new Wiretex Hydraulic Hose Selector. The first indicates inside diameter. The second shows corresponding number of braids, outside diameter, maximum working pressure, minimum burst pressure, approximate weight, bend radius. You can start with any factor.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12243

Hundreds of PROFITABLE USES for—

Use these versatile flexible shaft tools

for all kinds of shop work including die sinking, polishing, reaming, grinding and similar jobs. They're quickly and easily coupled to any electric motor with ⅜" or ½" diameter spindles.

They come in two sizes. The 700 Series for precise, delicate work use .092" shank diameter tools. The 500 Series for heavy duty service use tools with shank diameters up to ¼".

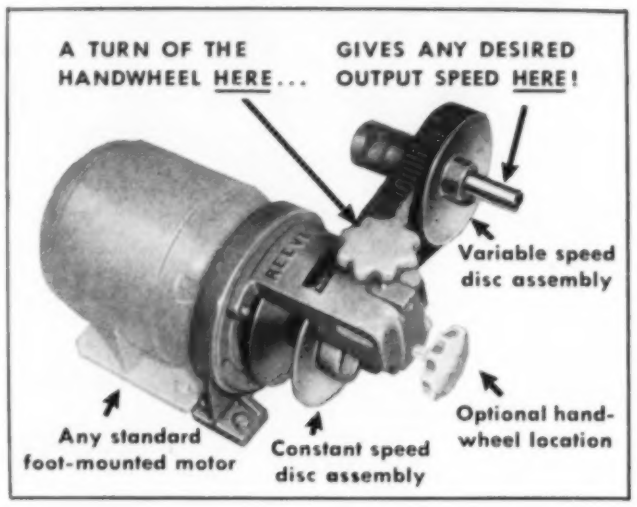
WRITE FOR THIS CATALOG. CATALOG T-51 describes Flexarms and many other S. S. White tools for industry. Send for your copy today.

THE S. S. White INDUSTRIAL DIVISION
DENTAL MFG. CO. Dept. N, 10 East 40th St. NEW YORK 16, N. Y.

WESTERN DISTRICT OFFICE: Times Building, Long Beach, California

If you write maker identify as IEN - 12244

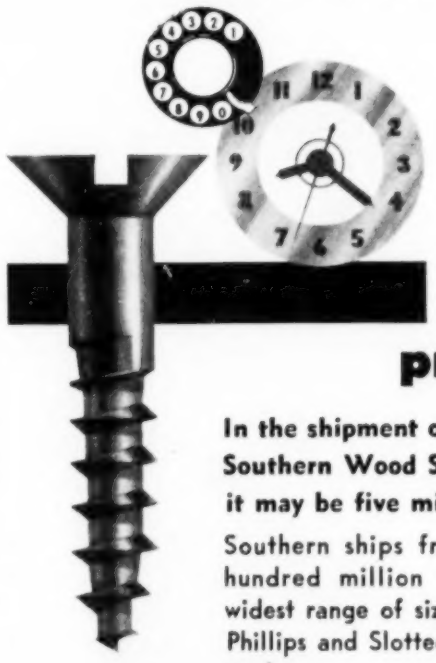
NEW! REEVES Flexi-Speed Drive



Mounts in any position . . . drives in any direction . . . gives any speed within 8:1 range . . . available in ½, ¾ and 1 hp. *Low Price!* Write today for details to Dept. IN91c-V-532.

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

If you write maker identify as IEN - 12245



How soon is prompt?

In the shipment of Southern Wood Screws it may be five minutes!

Southern ships from stock of six hundred million wood screws in widest range of sizes and finishes—Phillips and Slotted, flat, round and oval.

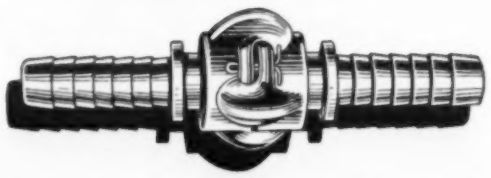
For easier driving—wood screws in bulk lubricated free on request.
For information and free catalogue, write Box 68-E.

SOUTHERN SCREW COMPANY
STATESVILLE • NORTH CAROLINA
MANUFACTURER OF WOOD SCREWS

Factory Warehouses: North Bergen, N. J. • Chicago 10, Ill. • Los Angeles 23, Calif.

If you write maker identify as IEN - 12246

"AIR KING"



QUICK-ACTING, UNIVERSAL TYPE HOSE COUPLING

A strong, durable coupling for quick, tight connections on field or factory air hose. Plain design — no parts to get out of order or clogged with dirt. Made in hose ends and male and female threaded pipe ends. Completely interchangeable. Patented safety locking device is proof against vibration and rough handling. Malleable iron (rustproofed) or bronze.

From Your Hose Supplier or Industrial Distributor

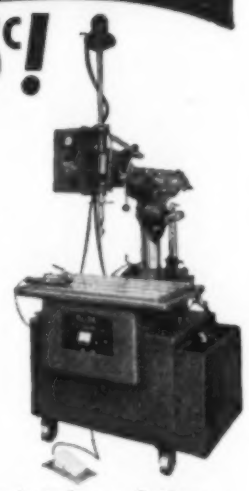
DIXON VALVE & COUPLING CO.
PRODUCERS OF *The Quality Line* COUPLINGS • NIPPLES • MENDERS • CLAMPS
"BOSS" "GJ-BOSS" "DIXON" "KING" "AIR KING" "DIX-LOCK"
PHILADELPHIA, PA. BRANCHES: CHICAGO • BIRMINGHAM • LOS ANGELES • HOUSTON

If you write maker identify as IEN - 12247

You can salvage Valuable Parts—

—FOR LESS THAN 25¢!

Including Labor, Materials, Burden



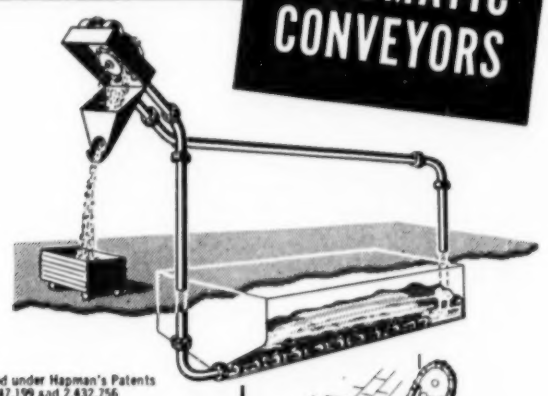
Elox Electron Drills* are *production* machines designed for fast removal of broken taps, drills, studs, etc., without harm to thread or wall, sticking or welding. Most units are completely self-contained, easily transported and come ready to plug in. As simple to operate as any drill press, Elox Electron Drills* are an insurance against loss of time, money and materials. Throughout the world, Elox machines salvage millions of dollars of work each year. Check your scrap today. There's an Elox Electron Drill* priced for any industrial requirement. Write today.

ELOX CORPORATION OF MICHIGAN
CLAWSON, MICH.
724 N. Rochester Road

If you write maker identify as IEN - 12248

Get automatic **LOW COST** handling of loose materials such as:
METAL WORKING CHIPS • DUST • SCALE • CRACKLINGS • POWDERS • ETC. with

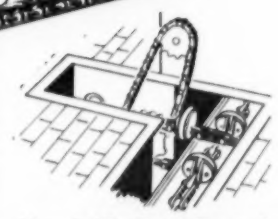
HOUDAILLE AUTOMATIC CONVEYORS



Licensed under Hapman's Patents No. 2,147,199 and 2,432,756

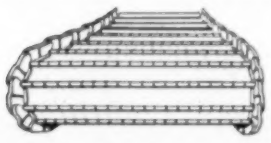
Houdaille Chain Drag Conveyors

Completely enclosed flights and chain automatically collect, transport and discharge chips, sludge, scale and other types of solid or fibrous material which settle to the bottom of tanks or hoppers. System eliminates manual handling methods, conserves manpower and requires little or no maintenance. Available in standard pipe sizes of 3", 4", 6" or 8". Larger sizes available on request. Choice of chains, flights, casings, accessories available, depending on application.



Houdaille Open Trough Chain Conveyors

Chain Drag Conveyors, installed in open troughs, offer advantages in many operations. Below-floor-level installation, illustrated, removes chips from gear cutters, keeps system from interfering with heavy traffic plant areas . . . offers access to chain and flights at any point of circuit.



Houdaille Pan Type Conveyors

One-piece, heavy-gauge steel plates, with all-welded hinges, lock together firmly with connecting rod to form perfect pan-type conveyor for chips. Welded hinges, rod connections and side wings, securely interlocked even when chain negotiates sprocket, prevent fall-through of material. Plates perforated for drainage, depending on application.

Houdaille Slat Type Trough Conveyors

Slat type trough conveyors, operating individually or in sequence, transport material to any given point—can be operated continuously or intermittently as desired. Slats and chain move material in open troughs, return automatically to collection or transfer points.

NEW Comprehensive Catalog . . .

with complete information on all Houdaille conveyors now available. Write today on company letterhead to . . .

Honan-Crane Corp.
802 Wabash Ave., Lebanon, Ind., *a subsidiary of*
Houdaille-Hershey Corporation

WORLD'S LEADING OIL FILTER MANUFACTURER

In Canada: E. W. PLAYFORD, LTD., Montreal 28
W. E. MICKLETHWAITE, Toronto 18

If you write maker identify as IEN - 12250

SIGNALING . . Vibration relay detects unbalance in rotating equipment

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.

Fail-safe protected

Electronic equipment is now available to close a signal circuit or operate a shut down control in the event of excessive vibration in large rotating equipment. It is known as a vibration relay and responds to frequencies ranging from 5 to 300 cps. in equipment operating at speeds from 300 to 18,000 rpm.

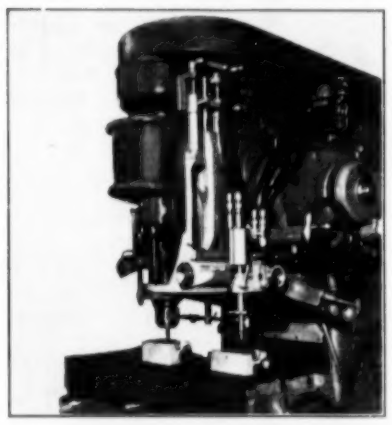
It is actuated by a barium titanate sensing element that mounts on the equipment to be protected by means of a ⅜-in. stud which forms its base. Output voltage from this sensing element is proportional to the magnitude of that component of vibration acceleration which occurs in the direction perpendicular to the surface on which it is mounted.

The signal is amplified, rectified and employed to operate a sensitive type single-pole double-throw relay, with contacts brought out to a terminal board, for operation of an external alarm or shut down device. The electronic equipment is assembled in a housing that measures about 9 by 13 by 6 in. and weighs about 19 pounds. Operation is on 110-volt ac. with input at 0.5 ampere.

If you write maker identify as IEN - 12251

CONTROL . . Tracer attachment for automatic contour machining

Source: GOODRICH HYDRAULICS
2180-84 N. Cedar St., Holt, Mich.



Accurate to 0.001 inch

Illustrated is application of the company's hydraulic duplicator attachment on a Pratt & Whitney vertical milling machine for automatic contour machining as in the manufacture of dies and molds. The duplicator mounts on the machine head and takes over the vertical spindle feed. This feed is governed by contact between a tracer point and the pattern mold or template. Longitudinal feed is by the machine's regular controls in standard manner.

The point contacts the template or master causing the spindle to advance or retract, as the longitudinal feed progresses steadily, to follow the predetermined contour. Application can be made on boring mills and also on lathes. The attachment includes a motor driven power unit that supplies hydraulic pressure from its position beside the machine.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12252

Cleans 12 miles of aisles in 6 HOURS!

The new Multi-Clean Motorized Sweeper can be a time and money saver for you just as it is for this large paper products plant. These 8 ft. warehouse aisles, the factory floors, sidewalks, alleys and freight docks are all cleaned in a fraction of the time formerly required by the old fashioned push broom method. Powered by a gasoline engine, the sweeper combines a Palmyra filled rotary sweeping brush 36 inches long and a powerful built-in vacuum unit. With side brush attachment sweeping width is increased to 4 feet.

Took 3 men with push brooms 8 hours to do the job.

Picks up dirt, dust, steel shavings, paper, grass, small metal parts and milling debris. The Sweeper's trouble-free service, easy operation and low price make it the best buy in the motorized sweeper field. For more information write—

MULTI-CLEAN®
2277 Ford Parkway, Dept. IE-11 St. Paul 1, Minn.

If you write maker identify as IEN - 12253

FAMOUS
"Nod & Shake" Type

Used by thousands, for years, to protect eyes against paint spray, gases, dusts, fumes, smoke. Can be worn with any make respirator. Frames are of soft, pliable rubber that give air-tight fit on any shape face. A few drops of water placed in patented groove keeps fog from forming on inside of single lenses. An easy nod and shake of the head keeps lenses clear indefinitely.

Sample sent
$ 2.00 pp

H. S. COVER, South Bend, Ind.

If you write maker identify as IEN - 12254

FOR MATERIAL HANDLING—
more and more—the swing is to wide-base pneumatic tires

GENERAL
INDUSTRIAL PNEUMATIC TIRES

More Designers are specifying wide-base General Pneumatics.
They know Generals add these extra selling points to handling equipment.

SAVE TIME • MONEY • LABOR

- *MORE LOAD CAPACITY AT LOW OR HIGH SPEEDS*
- *CUSHION EQUIPMENT AND LOADS REDUCING BREAKAGE AND SPILLAGE*
- *SAVE HIGH COST FLOORS AND FLOOR SURFACES*
- *SLOW, EVEN WEAR FOR LONG SERVICE*
- *HIGH FLOTATION FOR EASIER ROLLING OVER SOFT GROUND*
- *ROLLS EASIER, SMOOTHER OVER ALL SURFACES*

Available separately or in assemblies of Tires, Tubes and Wheels. Size O.D. 8" to 27"—200 to 4000 lbs. cap. for low or high speeds.

Rigid **CASTER FORKS** *Swivel*

Wide-base caster forks engineered to carry heavier loads without adding dead weight to equipment. Available in identical pairs in a wide range of sizes.

SEND FOR CATALOG . . . DEPT. 6

THE GENERAL TIRE & RUBBER CO. AKRON, O.

If you write maker identify as IEN - 12256

Sturdily Built for RUGGED USE

MODEL "H" STROKE COUNTER in attractive new finish — Seal Brown and Alaska Gray

This Productimeter Heavy Duty line is designed for hard usage and long service. Especially adaptable to production machines such as punch and drill presses, screw machines, turret lathes, etc.

There is a Productimeter for every counting job . . . always accurate . . . always dependable. They eliminate all "guess-work" . . . insure profitable operations and more efficient use of man-hours in your plant.

Send for Catalog No. 101

DURANT MANUFACTURING COMPANY
1930 N. Buffum Street, Milwaukee 1, Wisconsin
130 Orange Street, Providence 3, R.I.
Representatives in Principal Cities

PRODUCTIMETERS SINCE 1879 *Count Everything*

If you write maker identify as IEN - 12257

ONE MAN DOES THE WORK OF TEN with HYPRESSURE *Jenny* STEAM CLEANER

You can keep your plant and equipment spic and span for one tenth the cost of cleaning by hand! In a single hour, one man, using Hypressure Jenny, can do more cleaning and sanitizing than ten men can accomplish by hand methods. Not only does Jenny do a faster and better job of plant housekeeping, but by stripping grease and dirt from machinery before repairs, machine "down-time" is cut by as much as 40%. It will pay you to get full facts about how *you* can reduce *your* cleaning costs by 90%. Write today. There is no obligation.

Distributors in all parts of the world. For local representative see Classified Telephone Directory.

HYPRESSURE JENNY DIVISION — HOMESTEAD VALVE MANUFACTURING CO. Blowing since 1892. P. O. Box 85 • Coraopolis, Pa.

If you write maker identify as IEN - 12258

PET POWER TOOLS

You get ALL these features when you buy PET DRILLS!

If you want the best, take an extra look at the PET Superduty Drill above! Here's a continuous-duty drill—built to *work* right and *handle* right. And, the price is right, too! All features shown are *standard* in PET Superduty Drills—at a *standard drill price!* Complete line of 54 ¼", ⅜" and ½" models gives you wide selection—in pistol or saw-type grip. Use coupon below to get complete facts!

PORTABLE ELECTRIC TOOLS, INC., 320 W. 83rd St., Dept. IE-113, Chicago
In Canada: Portable Electric Tools, Ltd., 452 Birchmount Rd., Toronto

MAIL COUPON FOR FREE BULLETIN

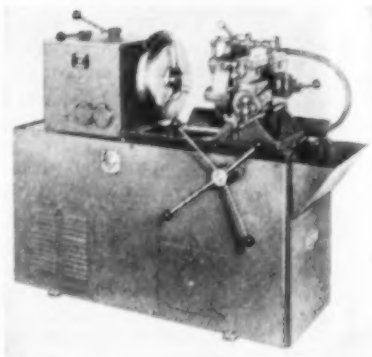
Please send me free PET Superduty Catalog and name of nearest distributor.

Name _____ Title _____
Company _____
Address _____
City _____ State _____

If you write maker identify as IEN - 12259

THREADING . . Motor driven machine for pipe to 4 in., has four speeds

Source: OSTER MFG. CO.
2055-59 E. 61st Place, Cleveland 3, Ohio



Thrift Model

The drive head on this new No. 784 Thrift Model pipe threading machine is fitted with a centering chuck at the rear and with a wheel operated driving chuck at the front to take pipe from 1 to 4 inches. The capstan operated carriage, to to the right of the assembly, mounts interchangeable, detachable, lever operated die heads.

The dies in these heads are hobbed design. They are made of tool steel for straight and taper threads, American National, Standard. Dies for standard length and taper API threads and bolt threads are also available. Each die set includes five segments. Assembly includes a magnetic starter with a push-pull selector switch for run and jog to control the 1,800-rpm. 3-hp. motor that is mounted in the base. The carriage is equipped with cut-off tools and with circulating coolant.

If you write maker identify as IEN - 12260

PHOTOGRAPHING . . Camera for progress records, production study

Source: EASTMAN KODAK CO.
341-45 State St., Rochester 4, N. Y.

For professional use

A Kodak Ektar lens and a Synchro-Rapid 800 shutter with a range finder feature the construction of this new professional type Chevron camera. It is particularly suited for public and industrial relations photography, for progress record work and to picture operations at machines and equipment and in a plant for production study. It employs Size-620 film, employs precision construction capable of taking hard usage and daily wear of professional use. List price is $215.

If you write maker identify as IEN - 12261

GAGES . . Bulletin on pitot tubes describes their selection and application

Meriam Instrument Co.
10918-22 Madison Ave., Cleveland 2, Ohio

Letterhead request will bring you a copy of 8-page Technical Bulletin 51 on pitot tubes. It tells about their use to measure fluid flow, calculations involved, and application with a manometer. Stock models are listed.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12262

A PAID NEWS ADVERTISEMENT BY PERFECTING SERVICE CO.

SPRADRI*

Stops Damage from Damp and Wet in Mechanical, Electrical, and Automotive Equipment

SPRADRI is a water displacing and rust inhibiting chemical which dries out damp or flooded equipment and puts it back in running order in a few minutes. It eliminates dismantling and drying out of complicated equipment. One application protects against shorting-out and rust for several months.

SPRADRI ies to a transparent film of molecular thinness and can be used on the most delicate equipment. Leaves no plastic or sticky coating.

The SPRADRI formula was developed during World War II for protection against damp and wet and is now being offered commercially for the first time. Packed in 12 oz. Aerosol containers. Write for Bulletin A10 or send $2.95 for your trial can.

*Trade Name

SPRADRI COMPANY
336 Atando Ave., Charlotte, N. C.
(Division of Perfecting Service Company)

If you write maker identify as IEN - 12263

Thousands of these MAGNA BIT HOLDERS* cut costs 4 ways

FOR POWER AND SPIRAL SCREWDRIVERS

1. *Cuts labor costs.* No hand starting, no pre-positioning of screws. Bit holds screw *firmly.* High energy *permanent* magnet energizes bit with 10 times ordinary "pull".
2. *Cuts bit costs* through use of long-wearing super hard, low-cost interchangeable insert bits.
3. *Cuts bit wear* and replacement since the energized bit seats itself positively in the screw slot or recess.
4. *Eliminates* loss of time and material caused by dropped screws.

Bit holders available for all makes of power and spiral drivers. Also super hardened tool steel insert bits for all types and sizes of screws.

Permanently Magnetic Magna-Tip Hand Screw Drivers*. . . bits for all types and sizes of screws and Magna-Tip Hex Drivers for hex head screws.

*U.S. Patent No. 2,550,775.

Write for folder 65-E, information and prices

MAGNA DRIVER CORP.
779 WASHINGTON STREET, BUFFALO 3, N. Y.

If you write maker identify as IEN - 12264

ONE MAN bends 2" x 2" x 3/16" Angle Iron EASILY . . .

with the . . . HYDRAULIC POWERED HOSSFELD UNIVERSAL . . . IRON BENDER

YOU GET more bending power, greater production, lower labor costs with this HYDRAULIC UNIT . . . smooth, easy bending of rounds, flats, pipe and angle irons . . . in rings, coils, angles, "S" and "U" bends . . . eyebolts, spring eyes, etc.

The HOSSFELD HYDRAULIC BENDER is your answer to improved quality, greater accuracy and faster, more efficient operation.

ASK US TO HELP YOU . . . WRITE NOW FOR COMPLETE DETAILS

Samples of Bar Bending

HOSSFELD MANUFACTURING COMPANY
424 WEST 3RD STREET • WINONA, MINN.

If you write maker identify as IEN - 12265

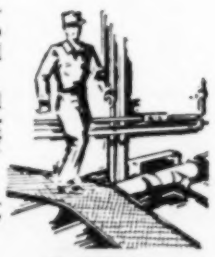
SOLVE ALL YOUR SKIDDING & SLIPPING PROBLEMS

with *Bustin* FIRM-GRIP SAFETY GRATING

Bustin FIRM-GRIP* grating guarantees safe, comfortable walking under the most adverse conditions where grease, oil or water can cause accidents from slipping.

FIRM-GRIP is acclaimed by Safety Engineers of major industrial concerns for its exceptional traction quality and other safety features due to the unique assembly and engineered spacing of the contact points.

Made in various designs and sizes and adaptable for installation on skidding problem spots where other makes of gratings cannot be considered.



"Bustin — Designers and Manufacturers of Metal Products Since 1928"

*Pat. Pending

Bustin FIRM-GRIP GRATING CORP.
Dover, New Jersey

Send for Complete Literature

If you write maker identify as IEN - 12266

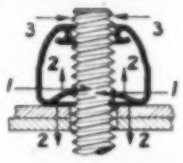
Low-cost lock nut Saves 2 ways

1 used as a load-carrying nut —offers triple locking action

Provides vibration-proof assembly of light parts, without lockwashers. Three locking forces assure tightness (see cross-section). Has pleasing appearance of cap or acorn finishing nuts.

2 used as an adjusting nut —stays put anywhere on the screw

Holds any desired setting or position on screw thread. Locking force 3 (see cross-section) hold PALNUT in position with six powerful spring jaws which grip outside of screw.



- *Triple locking action holds tight under vibration*
- *Fast assembly*
- *Light weight*

Send details of application for free samples and catalog showing full line of PALNUT Lock Nuts.

The PALNUT Co.
59 Cordier St., Irvington 11, N. J.
In Canada
P. L. Robertson Mfg. Co., Ltd.
Milton, Ontario

ADJUSTING TYPE PALNUT TRADE MARK® LOCK NUTS

If you write maker identify as IEN - 12267

Tape it with Behr-cat®

Whether it's going across the country . . . or just across the street, your shipment gets out faster and easier when you tape it with BEHR-CAT.

Unbelievably strong, this filament-reinforced tape is helping to simplify industrial shipping. Application is as simple as ABC. It sticks and grips at a touch without wetting. It needs no special tools or skills to apply and customers like it because they can unwrap in a jiffy. Yet its great strength makes it immune to shocks and jolts. Packages stay firm no matter how long or rough the trip. BEHR-CAT is a natural for sealing cartons, wrapping wire coils, tubing, lumber, plate glass, and banding metal parts.

The only way you can see for yourself is to try a roll. There's one here with your name on it. Just ask for it on your letterhead. Write us today. Behr-Manning Corp., Troy, N. Y. Address Dept. IEN-11.

In Canada: Behr-Manning (Canada) Ltd., Brantford.
For Export: Norton Behr-Manning Overseas Inc., New Rochelle, N. Y., U. S. A.

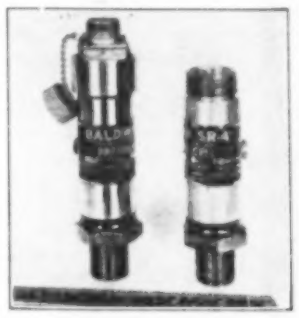
BEHR-MANNING division of NORTON Company

▲ COATED ABRASIVES ▲ SHARPENING STONES ▲ PRESSURE-SENSITIVE TAPES

If you write maker identify as IEN - 12269

GAGE . . High frequency cells read pressure to 10 ton per square in.

Source: BALDWIN-LIMA-HAMILTON CORP.
Paschall Post Office, Philadelphia 42, Pa.



In five capacities

Type HF is a new cell consisting of a pressure sensitive tube on the outside of which Special SR-4 strain gages are bonded. Pressure changes are measured by an electrical indicator or potentiometer recorder, or the cell is connected to operate an oscilloscope or oscillograph for high frequency response. Temperature compensation prevents changes of zero and sensitivity.

The cell can be employed in a range between minus 60 and plus 150 deg. F. for static pressure measurements. Special materials are used to meet high frequency requirements. Overall dimensions are about 2 by 5½ inches. Weight is 1 pound.

If you write maker identify as IEN - 12270

WATER PROOFING . . Liquid to revitalize tarpaulins, truck covers

Source: CHAMPION PACKAGED PRODUCTS INC.
5937 S. Archer Ave., Chicago 38, Ill.

Dries overnight

Resin, wax, filler, fungicide and pigment are combined in a new liqiud formula, known as Weather Master, to treat canvas that has been in severe service. Application is with a brush, spray or cloth swab to restore water repellency, prevent attack by mildew and to bring back the finish color, unless the colorless variety is desired. Available colors include green, khaki, olive drab, brown and clear. Coverage is 100 to 120 sq. ft. per gallon. Packaging is in gallon to 52-gal. drums. List price is $1.25 per gal. or less.

If you write maker identify as IEN - 12271

PROTECTING . . Glass cloth vest for use by workers at machines

Source: B. F. McDONALD COMPANY
5719-23 W. 96th St., Los Angeles 45, Calif.

For machinists

Metal fragments and flying objects, issuing with considerable force from various types of production machines, cannot injure a worker who is wearing this new **Protectivest.** It was developed originally by Lockheed safety engineers and is made of laminated glass cloth. Weight is about 3 pounds. Thickness is ⅛ inch.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12272

FASTER, SAFER LOADING

New adjustable hydraulic ramp for loading docks

The new Leva-Dock Ramp travels up or down automatically to keep on the level with vehicle bed. Thus you can quickly load and unload trucks and trailers without using loose plates, bridge ramps or other slow and dangerous methods. This hydraulic ramp compensates 4 ways for varying truck bed heights, out-of-level trucks and spring deflection. An automatic safety device prevents accidents.

The Leva-Dock is powered by a dependable hydraulic jack and power unit. Simple to install, inexpensive to operate.

WRITE FOR CATALOG RE-402

Rotary® Leva-Dock® Ramps

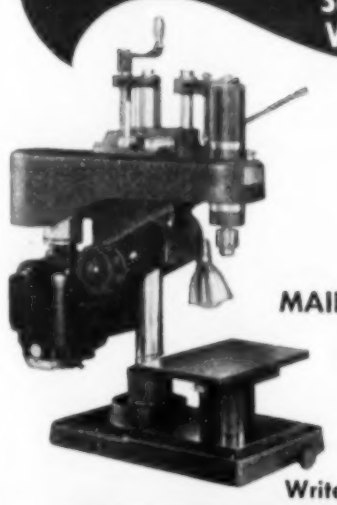
Rotary Lift Co., 1075 Kentucky, Memphis 2, Tenn.

If you write maker identify as IEN - 12273

For the SMALLER HOLES
the MORE ACCURATE HOLES

HAMILTON VARIMATIC® DRILLING MACHINE

SUPER SENSITIVE
VARIABLE SPEED



DRILLING CAPACITY
.004" to 0.3125"
in all drillable materials.

SPINDLE SPEEDS
840 to 9300 R.P.M.
(Infinitely variable.)

CLEARANCE
Drills to the center of 10"

MAINTAINS PRODUCTION REDUCES SCRAP

The Hamilton Varimatic is *designed and built* for the production, in volume, of extra accurate holes.

Write for FREE Bulletin D-5311.

THE Hamilton TOOL COMPANY
905 HANOVER STREET • HAMILTON • OHIO • U • S • A

If you write maker identify as IEN - 12274

FREE!

Guide to industrial uses of Sundstrand Air Sanders

See how you can save time and money on production and maintenance jobs with *Straight-Line Action* Sundstrand Air Sanders. No swirls! No scratches! No pressure marks! Finish wood, metal, or plastics—flat or curved surfaces—with wet or dry sanding. Here are just a few of the uses pictured:

- Sanding filler on castings
- Preparing metal for priming and final finish
- Sanding plastics
- Wet sanding base coat on wallboard
- De-burring rivet holes on aircraft
- Polishing dies
- Refinishing boats, desks, work benches
- Sanding and rubbing fine furniture

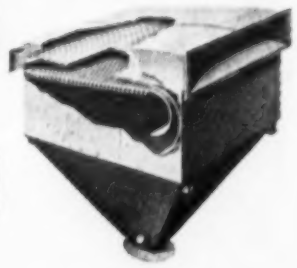
Act now! Contact your local supplier or write for Bulletin IEN-11

SUNDSTRAND

SUNDSTRAND AIR SANDERS
SUNDSTRAND MACHINE TOOL CO.
PNEUMATIC DIVISION, ROCKFORD, ILLINOIS

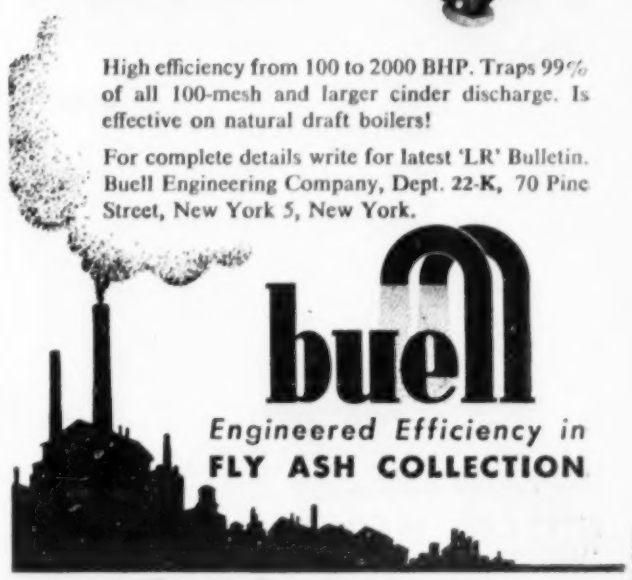
If you write maker identify as IEN - 12275

Buell-designed 'LR' Collector Stops Fly Ash From Small Boilers!



High efficiency from 100 to 2000 BHP. Traps 99% of all 100-mesh and larger cinder discharge. Is effective on natural draft boilers!

For complete details write for latest 'LR' Bulletin. Buell Engineering Company, Dept. 22-K, 70 Pine Street, New York 5, New York.



buell

Engineered Efficiency in **FLY ASH COLLECTION**

If you write maker identify as IEN - 12276

EFFICIENT . . .
LOW COST
SPRAYING . . .

DELAVAN Type WF NOZZLE . . .

Recommended for:

- Metal Cleaning
- Industrial Washing Machines
- Spraying Heavy Liquids
- Gravel Washing
- Coal Washing

. . . and many other industrial applications.

Write for Catalog 31

DELAVAN MANUFACTURING CO.
GRAND AVENUE AND FOURTH STREET
WEST DES MOINES, IOWA

If you write maker identify as IEN - 12277

Generalift
PALLET BOXES
1. CUT MATERIALS HANDLING COSTS
2. REDUCE STORAGE COSTS

SEND FOR FREE BOOKLET

General Box COMPANY
1815 Miner Street
Des Plaines, Illinois

Factories: Cincinnati; Denville, N. J.; Detroit, East St. Louis, Kansas City, Louisville, Milwaukee; Prescott, Ark.; Sheboygan; Winchendon Mass.; General Box Company of Mississippi, Meridian, Miss.; Continental Box Company, Inc., Houston.

If you write maker identify as IEN - 12278

Try the MODERN
SAFETY DRILL TABLE
Under our FREE TRIAL OFFER

For Faster, SAFER Work in your Maintenance Department

Combines a drill table, a vise, a set of parallels and V block. No more lost fingers from hand held jobs that slip. No more 30 minute set-ups for a 1 minute drilling operation. Made in 6 sizes from 8" to 28" dia. We guarantee each Safety Drill Table will save its cost on labor alone in 6 months, to say nothing of plant down time when vital maintenance is delayed even a few minutes.

Write for Free Folder

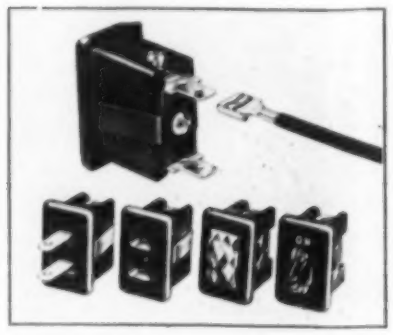
Shows many typical set-ups, and use on radial drills. Complete specification on all models. Covers MONEY BACK GUARANTEE and 30 DAY FREE TRIAL OFFER.

MODERN MACHINE TOOL CO.
JACKSON MICHIGAN

If you write maker identify as IEN - 12279

CONNECTOR . . Spade terminals available on company's snap-in devices

Source: HART MFG. CO.
108-12 Bartholomew Ave., Hartford 6, Conn.



For fast assembly

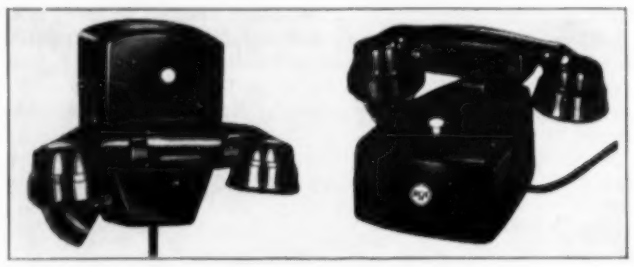
Load plugs, outlets, pilot lights and switches in the Diamond-H line of snap-in devices are now available with spade terminals for A-MP Quick-Connect connectors as well as with the standard screw terminals in the previously developed line. The devices are designed to plug into position in mounting holes in electrical equipment and appliances where spring clips hold them in place.

The new terminals make it possible to wire the devices by plugging them in also. The switch is rated 15 and 20 amp. on 110-volt ac. Pilot lights operate on 110 or 220-volt ac. depending upon the lamp employed or specified by the user.

If you write maker identify as IEN - 12280

COMMUNICATING . . Telephone type electronic equipment, two stations

Source: RADIO CORP. OF AMERICA
1941 Front & Cooper Sts., Camden 2, N. J.



Pick up, ring and talk

Duo-Com trade names new simplified assembly of the company's telephone type electronic communicating equipment, previously described IEN-4132-52. Two phone type instruments are connected by wire between two points such as an office and a plant department. Power is supplied by a 6-volt battery. Contact is made by lifting the receiver and depressing a button. List price is $66. Installation instructions are included.

If you write maker identify as IEN - 12281

PRESS TOOLS . . Color sound movie on tools and dies as the basis for mass production

National Tool & Die Mfrs. Association
907-A Public Square Bldg., Cleveland 13, Ohio

Apprentice program is covered as part of the description in new 16-mm. color sound motion picture, "Tool and Die Making—Keystone of Mass Production". Running time is 22 minutes. The film traces the apprentice through an 8,000-hour course, shows the part played in industry by tools and dies, stresses craftsmanship upon which production depends.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12282

for wrapping
PERMACEL
PRESSURE SENSITIVE
PAPER TAPES
INDUSTRIAL TAPE CORPORATION, NEW BRUNSWICK, N. J.

If you write maker identify as IEN - 12283

NEW PRESS BRAKE
IN TWO SIZES
6 FT. and 8 FT.
LOW PRICED
BIG PRESS FEATURES

- Buttress Threads in revolving bronze nut with release grooves to prevent jamming.
- One Piece Construction (welded, normalized, machined in one piece).
- Ball and Roller Bearings throughout.
- Fine adjustment.

Made by the makers of famous SEMCO "34 YEAR" BRAKE DIES.

Write for NEW color folder and prices of PRESS BRAKES and 26 standard BRAKE DIE designs. Send die specifications for estimate.

SEMCO
SERVICE MACHINE CO., INC.
200 Miller Street • Elizabeth 4, N. J.

If you write maker identify as IEN - 12284

Here it is
a BALL BEARING BUSHING offering maximum capacity in limited space
(only 1/4" section height)

. . . provides stability, radial and thrust capacity in very light section.

. . . increases equipment life without adding excessive weight.

. . . improves performance without costly changes in design.

. . . prelubrication eliminates costly methods of introducing lubrication.

. . . a practical answer to many problems of designers and users.

Write for folder giving sizes and load capacities. Ask our Engineering Department for advice and assistance on your problems.

SPLIT BALLBEARING CORP.
LEBANON NEW HAMPSHIRE

If you write maker identify as IEN - 12285

Stop Slamming Doors!
KANT-SLAM Hydraulic Door Check

Closes
Stops

Large or Small Doors, Screen Doors and Gates - Easily, Gently Smoothly Slamming . . . Banging . . . Broken Door Glass . . . Insects . . . Drafts . . . Heat Loss

$9.95 DELIVERED

THOUSANDS IN DAILY USE IN EVERY STATE IN U. S.
SCHOOLS, HOSPITALS FACTORIES, WAREHOUSES, OFFICES, INSTITUTIONS PUBLIC BUILDINGS
ATTRACTIVE, DARK BRONZE, METALLIC LACQUER FINISH—HAMMERED BRONZE

KANT-SLAM closes doors with efficiency of human hand. Hydraulic action—NOT an air check—piston works in oil. 3 years trouble-free service guaranteed. Price about half of other hydraulic controls.

Works any place along hinge side of door—top, middle or bottom—either right or left hand doors. KANT-SLAM is completely self-contained—door and hinges are absolutely free of any strain or pressure. Holds door open when past 90 degrees.

Only one size Check required—three sizes easily detachable springs available for various size doors. Simple screw adjustment for closing speed.

Order on 30 Days FREE TRIAL—or Write for Complete Details

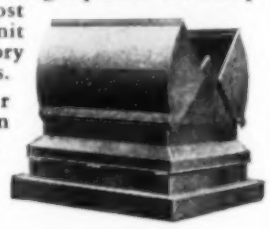
KANT-SLAM Door Check Co.
201 W. Spring St., Bloomfield, Ind.

If you write maker identify as IEN - 12286

Triple threat to bad air in your plant

● Where you have concentrated heat, smoke or fumes, use *power* to expel it. Airjector, Valvent and Ject-O-Valve Ventilators help you profit by Swartwout's 45 years ventilating experience. We help you select most economical unit for your factory conditions.

Write for Bulletin 348B.



Also gravity type ventilators and intake louvers.

18511 Euclid Avenue, Cleveland 12, Ohio

The Swartwout Co.

Roof Ventilators and Ventilating Louvers

POWER PLANT EQUIPMENT • PROCESS INDUSTRY CONTROLS

If you write maker identify as IEN - 12287

Hold an all with Super-Safe Grip

PIONEER

Stanzoils

Non-slip grip on Stanzoils acts like sand on ice. Handles wet, oily objects as if dry. Speeds work—cuts accidents.

PIONEER Processed *milled* neoprene gives extraordinary service in contact with oils, acids, caustics and solvents. Milled neoprene has higher tensile, greater tear resistance than any other oil-proof rubber.

Only a liquid-tight glove gives positive physical protection from conditions causing dermatitis.

32 PIONEER Stanzoil styles, weights, sizes and colors. Send for Stanzoil catalog—shows quickly how to pick the best, most economical glove for each job.

N-35 light weight all-neoprene 10-1/2" length. Snug curved fingers. Super-Safe grip surface holds oily, slippery objects as if dry.

The PIONEER RUBBER COMPANY
235 Tiffin Road • Willard, Ohio

STANZOIL PIONEER

Quality Gloves for 35 Years

If you write maker identify as IEN - 12289

PIPE FITTINGS . . Made of plastic for flexible and semi-rigid pipe lines

Source: WILDON INDUSTRIES INC.
251 E. 35th St., Dept. IEN, New York 16, N. Y.

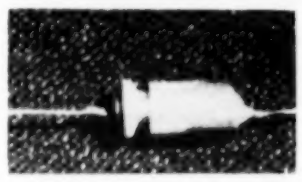
Available from stock

Styrene fittings, for flexible plastic pipe, and butyrate fittings, for semi-rigid lines, are now available in a range of sizes from ½ to 2 inches. The line includes insert couplings, adapters, ells, tees. Bursting pressure is in excess of the strength of the pipe. Butyrate couplings also are available in 3 and 4-in. sizes. Fittings to apply over the pipe ends, rather than to insert into them, are made with openings sized to take the "weld" solvent employed in the joining process.

If you write maker identify as IEN - 12290

CAPACITOR . . Miniature unit, tantalum anode, for low voltage dc.

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.



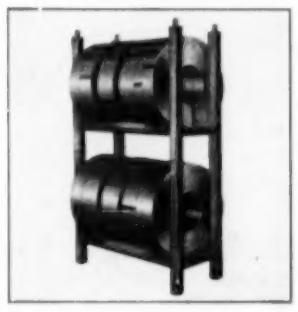
Micro-Miniature

Dimensions are $\frac{5}{16}$ in. in length by ⅛ in. in diameter for this new miniature capacitor. The company has developed it as a companion to the previously announced transistor, particularly for use in hearing aids and in transistorized military equipment. The new unit is available in ratings from 2 to 16 volts and 4 to 0.7 microfarads. A larger unit, ½ in. long, has similar characteristics and same voltage range but rates 8 to 1.5 micro-farads.

If you write maker identify as IEN - 12291

HANDLING . . Coil stock rack carries and stores wire and strip stock

Source: RACK ENGINEERING CO.
6th St. & Leisenring Ave., Connellsville, Pa.



For truck or crane

Square section steel tubes, in welded assembly, are employed in this new rack for the load carrying members and the corner uprights. Pin and socket ends on the uprights nest together in secure multiple unit storage. Crane eyes and cross bars can be specified. Rack sizes and load capacities also are to order.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12292

Mutual LP-GAS TORCH & FURNACE

FASTER, CLEANER, SAFER AND CHEAPER THAN GASOLINE OR KEROSENE

Light a match and—POOF—you're in business. No waiting, no pumping or priming. For every heating and melting need Mutual LP-Gas (Propane) furnaces and torches will save you many hours and dollars in labor cost.

No messy fuel, no smoke or odor. Fast and economical. Furnace melts 60 pounds of lead in 12 minutes. Light weight, won't blow out and won't tip over. Torch develops 2400°F. Thousands in daily use. Fuel available everywhere.

Plumbers and repairmen—don't miss this. Send today for free catalog on Mutual's complete line.

No. 2 Furnace

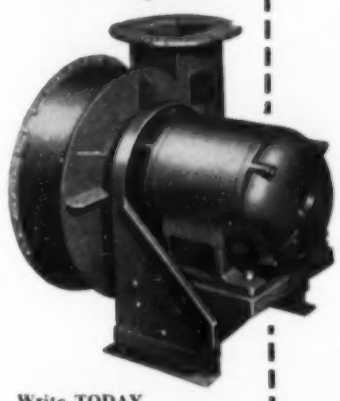
No. 5 Torch

Mutual LIQUID GAS EQUIPMENT CO., Inc.
3606 WEST IMPERIAL BLVD., INGLEWOOD, CALIFORNIA

If you write maker identify as IEN - 12293

UP TO 2¼ lbs. PRESSURE

Single Stage— in Small Space



Write TODAY for Bulletin 3553-A

with "Buffalo" "CB" BLOWERS

Ruggedly built "Buffalo" "CB" Blowers are the low cost, space-saving answer to many high-pressure, moderate-volume air applications. They have been recently improved in size, strength, and weight for even greater efficiency than before. Available in sizes 150 to 5000 CFM.

See how these compact "Buffalo" "CB" Blowers can save you money on any pressure job in their range.

BUFFALO FORGE COMPANY
496 Broadway Buffalo, N. Y.
Publishers of "FAN ENGINEERING" HANDBOOK
Canadian Blower & Forge Co., Ltd., Kitchener, Ontario
Sales Representatives in all Principal Cities

If you write maker identify as IEN - 12294

Man alive! This Hydraulic Jack DOES EVERYTHING but walk and talk!

It's *no ordinary* hydraulic jack . . . this is a *"Porto-Power"!* Its compact, *remotely-controlled* ram is threaded for fast assembly with ingenious attachments . . . to push, pull, clamp, press, bend or spread . . . over any span, any angle!

Every maintenance crew needs this Porto-Power S31 KIT

Replace slow, dangerous, damaging maintenance methods! The 10-ton hydraulic unit and attachments save up to 9 man-hours moving a single machine. Pull pulleys; push out pins, bushings, bearings; bend rail; clamp—do "1001" other tough jobs!

Buy from leading supply houses. Write for "Porto-Power" catalog.

BLACKHAWK

BLACKHAWK MFG. CO., Dept. J-15113, Milwaukee 1, Wis.

If you write maker identify as IEN - 12295

NEW

Precise SUPER 30

OUTWORKS, OUTLASTS ANY TOOL IN ITS FIELD

1/5 H.P. and 45,000 R.P.M. with precision in an AC/DC grinder-miller weighing only 35 ounces! Exclusive features include PRECISE Spindle and *draw collet chuck* for precision and quick, easy tool change. Operates *tungsten carbide* mills as efficiently as conventional rotary tools for grinding, milling, finishing and polishing any material including the hardest alloy steel. Micro-precision bearings; air-cooled, vibration-free motor. Unique PRECISE Mounts are available for set-ups on machine tools.

Write FOR NEW CATALOG

Precise PRODUCTS CORPORATION
1326 CLARK STREET • RACINE, WISCONSIN

If you write maker identify as IEN - 12296

NEW MARSH

Serviceman Soundscope

. . . cuts servicing and maintenance costs

Most effective instrument ever developed for pin-pointing and identifying mechanical defects. Saves time and dollars tracking down troubles in bearings, gears, mechanisms . . . detects leaks, knocks, piston slaps—any defects that make a sound. A precision instrument of Marsh quality, sensitive to faintest sounds . . . with handy probe and headband as illustrated. A remarkable tool, moderately priced.

Ask for Circular

MARSH INSTRUMENT CO.
Sales affiliate of Jas. P. Marsh Corporation
Dept. A, Skokie, Illinois

If you write maker identify as IEN - 12297

Their Good Looks Help Sell Your Original Equipment!

PIC STEEL UNIONS

You get eye-catching brightness as well as strength with a Pic — the 150 lb. steel union that's tailor-made for makers of original equipment. Ends are uniformly flat-sided for speedy installing with open end wrenches and the steel pipe coupling stock can take the most punishing wrenching. Special wedge-type bronze seat locks the union tight. Complete zinc plating (even on threads) says "no!" to rust. The cost? *Less* than a galvanized, *no more* than a black malleable union.

Write for Free Samples!

DART UNION COMPANY
130 Thurbers Avenue,
Providence 5, R. I.

If you write maker identify as IEN - 12298

Tighten the Reins—Stop Loose Buying

Use **NUPLA** hammers
The one soft-faced line serving all industry

with interchangeable NUPLAFLEX tips

"A hammer for every purpose... ...a purpose for every hammer"

MIGHTY—but gentle

SIMPLIFY—SAVE INVENTORY NUPLA hammers with their complete size and weight selection do the **whole** job...easily interchangeable NUPLAFLEX TIPS in 5 hardnesses meet all soft-faced pounding requirements...replace rubber, rawhide, lead, plastic and all other lines of soft-faced hammers.

HAVE TREMENDOUS ECONOMY APPEAL Super-durable NUPLA hammers have **proved** to outwear ordinary hammers 10-50 to 1...and have played important roles in many cost reduction programs. Write for actual case histories.

THE CHOICE OF INDUSTRY Many users **specify** NUPLA with NUPLAFLEX TIPS, including General Motors, Chrysler, Allis-Chalmers, Ford, Lockheed, Westinghouse, the Army, Navy and Air Force.

WORKERS PREFER THEM NUPLA hammers provide solid blows without sting...reduce fatigue. Also safety tools...non-chipping, no flying particles, sparkproof.

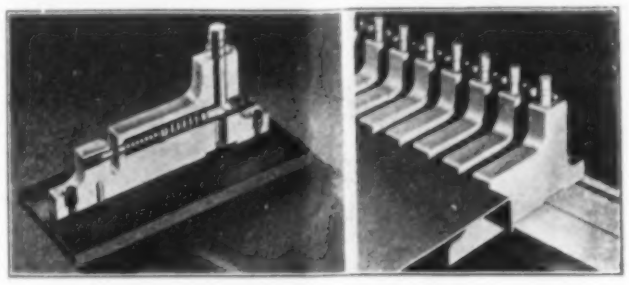
New Plastic Corporation,
1026 North Sycamore, Dept. No. 107, Los Angeles 38, California
Please tell me how to increase the efficiency and reduce the costs of my pounding operations with NUPLA hammers.

Name_____
Street Address_____
City_____ Zone____ State_____

If you write maker identify as IEN - 12299

PRESS TOOLS . . Punch and die units for horizontal holes in flanged work

Source: WALES-STRIPPIT CORPORATION
361 Payne Ave., North Tonawanda, N. Y.



Self-contained assemblies

Downward action of the vertical spring backed plunger, in this new horizontal design of the company's Type-H hole punching units, applies on the tapered end of a horizontal plunger. This plunger acts against a spring backed horizontal punch to perforate holes in curved and straight flanges, rims, angles, standing in vertical position.

One or more of the units can be set up on a press bed in connection with a work positioning fixture or in line on bed guides. No mechanical attachment is required to the press ram. The punch and die are aligned with each other. A complete unit can be removed and another put in its place. Capacity is for holes to ½ in. in mild steel to ⅛ in. in thickness.

If you write maker identify as IEN - 12300

GAGE . . Folding wood rule hinges open in 2 in. gaging steps

Source: STANLEY TOOLS
478-82 Myrtle St., New Britain, Conn.

List is $1.60

Numbers begin on the inside face of this new No. 126F Green End folding rule. Construction is characterized by the square ends and the fact that the rule opens in units of 2 in. for its entire length. When opened from the short leg end, each additional leg extended gives an end to end reading in even half-foot lengths. Black figures lie close to the work on white plastic coated native hardwood sticks. The joints have a ball lock action that holds them rigid and prevents stretching. Overall length is 6 feet.

If you write maker identify as IEN - 12301

WIRE ROPE . . How to select it is described in catalog with ten suggestions on care

Bergen Wire Rope Co.
53 Gregg St., Lodi, N. J.

Operating conditions are stressed in new 12-page "Wire Rope" catalog as the basis on which to select a rope as to grade of wire, type of core, lay, rope construction, safety factor. The catalog describes these factors, includes a typical purchase order as representative of the information required, lists "ten commandments" on the care of wire rope.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12302

the most widely used Electronic Supply Guide

free

ALLIED'S COMPLETE 268-PAGE 1954 CATALOG

Send for it

World's Largest Stocks of ELECTRONIC SUPPLIES FOR INDUSTRY

Simplify and speed your purchasing of electronic supplies and equipment. Send your orders to us for quick shipment from the world's largest stocks of special-purpose electron tubes, test instruments, audio equipment, electronic parts (transformers, capacitors, controls, etc.). Our expert Industrial supply service saves you time, effort and money. Send today for your Free ALLIED Catalog—the complete, up-to-date guide to the world's largest stocks of Electronic Supplies for Industrial use.

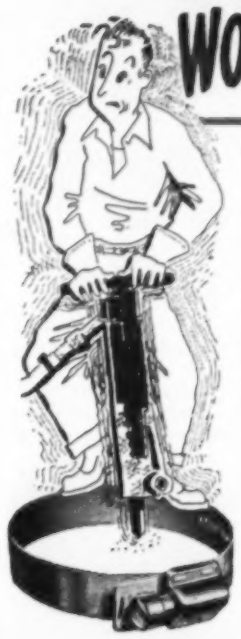
One complete dependable source for everything in electronics

ALLIED RADIO
100 N. Western Ave., Dept. 14-L-3
Chicago 80, Illinois

If you write maker identify as IEN - 12303

AERO-SEAL WORM-DRIVE HOSE CLAMPS

WON'T SHAKE LOOSE!



Wherever you have to clamp a hose connection tight . . . or wherever you want to lock two objects of any shape together in an unshakeable bond . . . your best bet is AERO-SEAL.

Threads of steel worm engage deep into slots in stainless steel band — hold tight under extreme vibration in automotive, aircraft and industrial applications. CAN'T SHAKE LOOSE.

One-Hand Installation

Install on Aero-Seal any place you can reach with thumb and one finger. Self-feeding when band engages worm threads. Thumb-grip and screwdriver types.

Re-use Again and Again

When hose is worn you RE-USE the same Aero-Seal again and again. RE-USE Aero-Seals on temporary clamping jobs—they conform to any shape without damaging band.

Use of Stainless Steel Subject to Government Regulations

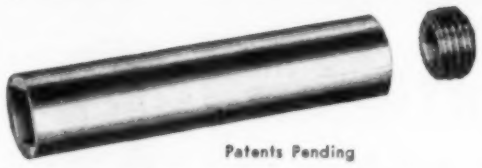
"Aero-Seal"® WORM DRIVE HOSE CLAMPS

ANOTHER BREEZE PRODUCT

BREEZE CORPORATIONS, INC.
41 South Sixth St. Newark, N. J.

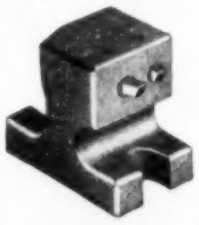
If you write maker identify as IEN - 12304

How SQUARE HOLED SLEEVES SPEED UP TOOL-MAKING!



Patents Pending

One of the most difficult problems in tool making can be solved easily and quickly with Sturdy Square Holed Sleeves. The perfection of broached square holes can be had in boring bars, milling cutters and many other applications at a small fraction of the cost of imperfect hand-made square holes. The sturdy Square Holed Sleeve consists of a round sleeve with a perfectly square hole broached through the center. This hole is tapped at one end to receive a back-up screw which is furnished with the sleeve. The sleeve can be sweated or pressed into a drilled and reamed hole to make a perfectly square accurate hole in a very few minutes.



The sturdy Square Holed Sleeve will save you many hours and many dollars in the making of boring bars, tool holders and other tools requiring square holes.

SLEEVES MADE IN FOLLOWING SIZES:
3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 5/8", 3/4", 1"

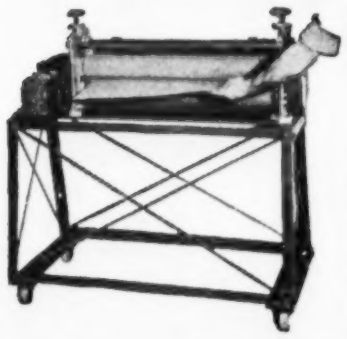
Write for Literature

STURDY BROACHING SERVICE
23516 TELEGRAPH ROAD • DETROIT 19, MICH.

If you write maker identify as IEN - 12305

Built for dependable service

POTDEVIN COMBINING MACHINE



A new high-speed machine that combines all type glued materials to ½ inch thick and 30 inches wide.

Designed for use either for hand feeding or set up in a production line. A safety switch is provided for separating the rubber covered rollers. Machine is mounted on a rigidly constructed steel frame, easily ported about on ball-bearing casters.

Other machines available from 24 to 48 inches wide or wider on special order. Machines for combining materials up to 1¼" are also available.

Write for literature on complete POTDEVIN line

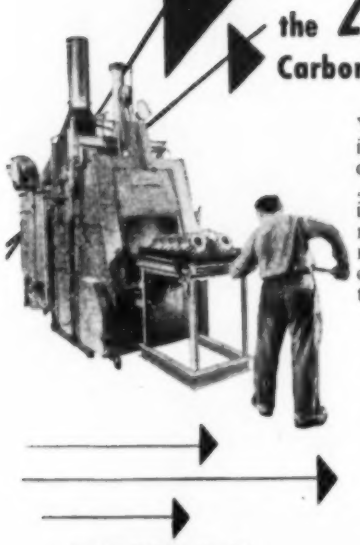
POTDEVIN MACHINE CO.
213 North Street • Teterboro, N. J.

Designers and manufacturers of equipment for Bag Making, Printing, Coating, Laminating, Gluing and Labeling.

If you write maker identify as **IEN - 12306**

5 FURNACES IN ONE

the *LINDBERG* Carbonitriding Furnace



Yes, it's many furnaces in one. It's designed not only for carbonitriding . . but also for hardening, carburizing, annealing, and carbon restoration. It's self-contained . . it's easy to maintain!

Heating is by new type, gas-fired, vertical radiant tubes. They weigh only 29 pounds each, can be changed in two minutes, and usually last two or three times longer than old conventional type radiant tubes.

Ask for ***Bulletin No.*** **241**

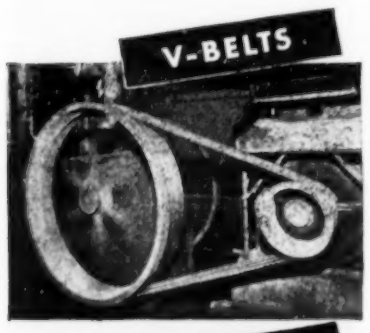
LINDBERG FURNACES

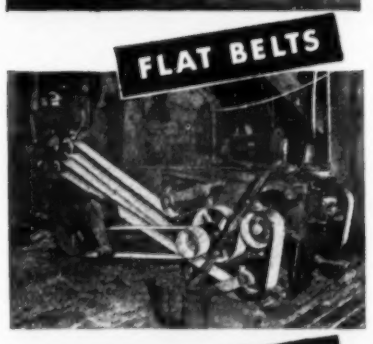
Lindberg Engineering Company • 2481 West Hubbard Street • Chicago 12, Ill.

If you write maker identify as **IEN - 12307**

A complete line of

V-Belts and V-Belt Drives, Flat Belts and Belting





Whatever your belt drive needs, "U.S." can supply it. With "U.S." distributors and warehouses located across the country, you get immediate shipment.

U. S. Rubber V-belt technicians are specialists in the transmission of power. These service engineers are always ready to see that you get the right belt for the right job. Get in touch with your distributor or contact any of our 25 District Sales Offices or write to address below.

- **U.S. Rainbow Multiple and F.H.P. V-Belts**
- **U.S. Rainbow Multiple and F.H.P. Sheaves**
- **Flat Belts and Belting**
- **Special Purpose Belts**

U. S. Rainbow Q. D. Sheaves *in a complete line*

Quick-demountable sheaves bring many advantages . . . simplicity . . . inter-changeability . . . lowest cost for flexible inventory. Sheaves and V-belts from the one source guarantee your getting the *right* sheave with the *right* belt.

U.S. RUBBER SERVING THROUGH SCIENCE

"U.S." Research perfects it
"U.S." Production builds it
U.S. Industry depends on it

UNITED STATES RUBBER COMPANY

Mechanical Goods Division • Rockefeller Center, New York 20, N. Y.

Hose • Belting • Expansion Joints • Rubber-to-metal Products • Oil Field Specialties • Plastic Pipe & Fittings • Molded & Extruded Rubber & Plastic Products • Protective Linings & Coatings • Grinding Wheels • Packings • Tapes • Conductive Rubber • Adhesives • Roll Coverings • Mats & Matting

If you write maker identify as **IEN - 12309**

FLOORS . . Aluminum grating for safe footing in wet or oily areas

Source: BORDEN METAL PRODUCTS CO.
953 Green Lane, Elizabeth, N. J.

Specifications on request

Serra-Crimp is a new special design of the company's regular aluminum grating. The crimp bars are serrated and raised slightly above the top surfaces of the longitudinal bearing bars. The design provides positive footing without loss of strength and makes the grating suitable particularly for use in the presence of moisture, oil and grease.

Eleven sizes employ bearing bars measuring ¾ by ⅛ in. to 2¼ by $\frac{3}{16}$ inch. Corresponding crimp bar sizes are ¾ by ⅛ in. to 1 by ⅛ inch. Weight per square foot is 2.3 to 6.1 pounds. The smallest grating rates a safe uniform load of 247 lb. on a 2-ft. span. The largest grating rates 863 lb. on an 8-ft. span.

If you write maker identify as **IEN - 12310**

FLOORS . . Concrete sealing liquid for new floors and repaired areas

Source: WEST DISINFECTING CO.
62-18 West St., Long Island City 1, N. Y.

Gallon covers 500 square feet

Floor Sealer is a new liquid to be spread over new concrete floors and over areas freshly repaired. The liquid protects the concrete against spalling and dusting. It permits residual moisture to escape so the concrete need not be completely cured before it is treated.

If you write maker identify as **IEN - 12311**

CONNECTOR . . Molded plastic cap for solderless connection on wire ends

Source: METALECTRICS, INC.
677 Broadway, Dept. IEN, New York 12, N. Y.

25 cents per package

Two or more wire ends, from which insulation has been stripped, are twisted together and then inserted into this Bakelite Type-DE wire connector. Turning the cap grips the wire ends to make a solderless connection. The company announces new packaging in which 10 of the connectors are enclosed in transparent plastic for random use by service men. Each package contains two No. 13 small units, six No. 14 medium units and two No. 16 large units. A carton containing 30 of the packages lists at $7.50.

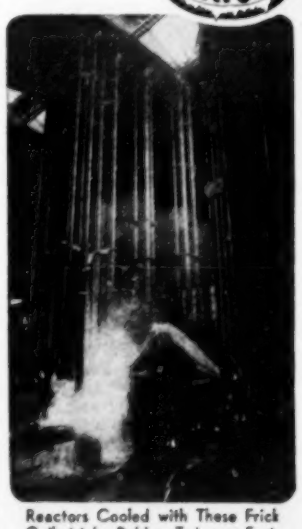
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 12312**

Synthetic Rubber Industry Increases Output with

FRICK

Refrigeration



Reactors Cooled with These Frick Coils Make Rubber Twice as Fast.

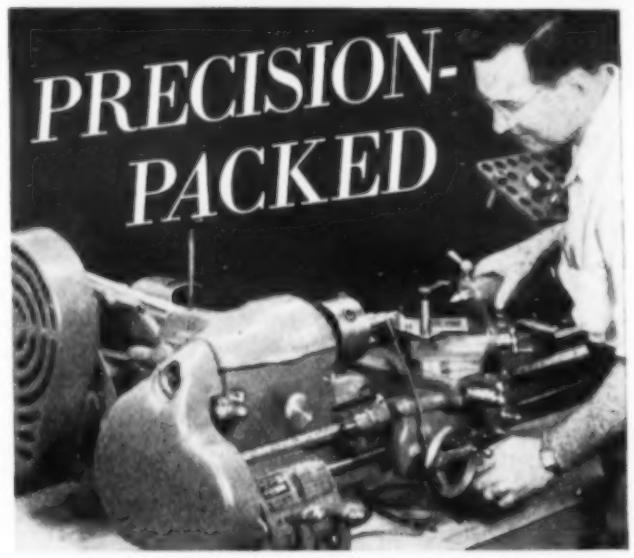
The big plants making synthetic latex at Baton Rouge, La., Naugatauk, Conn., Louisville, Ky., and Borger, Texas, have lately installed special Frick cooling systems for holding critical temperatures in reactors—in such remarkable fashion as to more than double their output! The advantages of "cold" rubber are thus made more available to everyone.

Whatever the cooling problem—air conditioning, ice making, quick freezing or process work—you can rely on Frick refrigeration to solve it with dependability.

Frick Branches and Distributors are in principal cities throughout the civilized world.

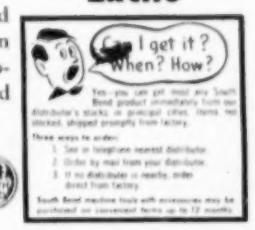
FRICK CO. WAYNESBORO, PENNA. U.S.A.

If you write maker identify as **IEN - 12313**



South Bend Light Ten Lathe

Here's precision packed into the ideal machine tool for machining small to medium-sized parts. Compact and sturdy, the South Bend Light Ten Lathe will help you meet your production schedules with economy and ease. Write for catalog.



SOUTH BEND LATHE
SOUTH BEND 22, INDIANA
Building Better Tools Since 1906

If you write maker identify as **IEN - 12314**

40% to 70% cost-saving with Edmont work gloves

job-fitted to your needs

NEOX (reinforced neoprene) coated gloves fit widest range of work

Never before a glove so equally resistant to abrasion, cutting, oil, acids, solvents, caustics, degreasants and heat. Good flexibility and grip. All Edmont coatings are bonded to strong fabric linings for comfort and snag-resistance. Full coated or palm coated.

"Redmont" NEOX gloves for heaviest duty service and safe grip

Non-slip finish, cured *into* 30% thicker red NEOX coating, grips wet or greasy surfaces as well as dry. Longest wearing, safest of all liquid-proof gloves. Seamless wearing surface, extra wide thumb span, curved fingers.

Safety engineers approve white-fabric lined, rubber-coated Grab-its

Tough, flexible, rough-textured natural rubber, bonded to sturdy white fabric lining, gives positive non-slip grip, wet or dry. Outwear ordinary canvas gloves up to 10 times. Far safer, too.

Grapplers grip even in grease; outwear other plastics 50%

Coated with DUROX, a leather-like reinforced plastic that retains its grip when wet, is extremely resistant to abrasion, oil and coolants, and stays flexible. Perfect fitting, too. Note wing thumb and curved, pre-flexed fingers.

Hand-fitting Monkey Grips far outwear leather, ordinary plastics

Special Edmont vinyl coating is second only to "DUROX" in wearing qualities and grip. Same wing thumb and pre-flexed finger design as "Grappler" gloves; fit the hand all over.

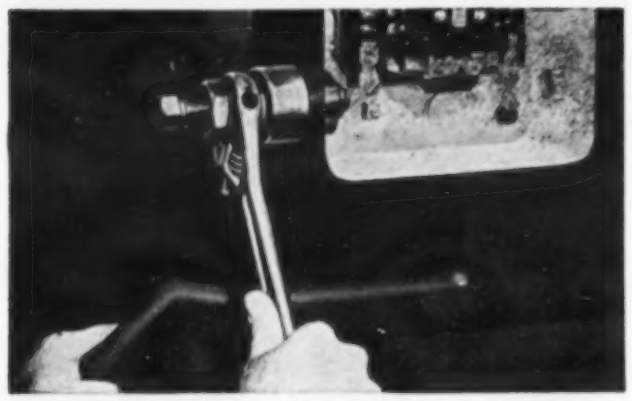
Make this FREE TEST to cut your costs, improve safety. Send us a brief description (on business letterhead) of your operations, materials handled, and temperature condition. Without cost we will recommend the proper glove and forward samples for testing on the job.

Edmont Manufacturing Company
1226 Walnut Street, Coshocton, Ohio
World's largest maker of coated industrial gloves

Edmont

Edmont job-fitted gloves

If you write maker identify as IEN - 12316



Accurate "clean" openings for conduit easily made in 1½ minutes or less

Speed conduit installations with GREENLEE Knockout Punches and Cutters. Eliminate time-wasting drilling and filing to enlarge holes. Do the job in 1½ minutes or less with these GREENLEE tools that cut smooth holes up to 4" to accommodate conduit in sizes ranging from ½ to 3½". Do the job neater, faster, easier, this way.

GREENLEE

GET FACTS TODAY on all four types of Greenlee Knockout Punches and Cutters and Greenlee Hydraulic Knockout Punch Driver. Greenlee Tool Co., 1871 Herbert Avenue, Rockford, Illinois.

If you write maker identify as IEN - 12317

Two Fuller two-stage compressors in a steel mill. Capacity each, 1660 c.f.m., 125 lb. pressure.

AIR ISN'T FREE! but with FULLER rotary compressors IT NEED NOT BE COSTLY

Fuller Rotary Compressors are built to provide a lifetime of new machine efficiency. They're sturdy, dependable . . . and because they have a minimum of moving parts—rotor, bearings, blades—they require minimum attention. There are no valves to leak, no seats to grind, and blades automatically compensate for wear. No detail has been overlooked that makes for long-term, trouble-free service, at the lowest possible maintenance and operating costs.

Have a Fuller engineer show you how they pay off in dependable service and long life.

FULLER COMPANY—CATASAUQUA, PA.

Branch Offices

Chicago • San Francisco • Los Angeles • Seattle • Birmingham

C-233A—2059

Fuller PIONEERS OF HIGH-EFFICIENCY VANE TYPE ROTARY COMPRESSORS

If you write maker identify as IEN - 12318

Economy ELEVATING Table

For feeding sheet stock, supporting fabricated frames, handling heavy dies, or as a portable work bench. All four sides are accessible to the user.

Lifting and lowering load is hand operated. Crank handle can be attached and operated from either end, with two speed lifting. Self locking worm and screw elevating mechanism holds work at any height without danger of falling. A foot operated floor lock holds table stationery when in use.

Capacity of 2,000 lbs. Dimensions—top 24" x 36", min. height 24", max. height 42".

PRICE F.O.B. CHICAGO $210.80

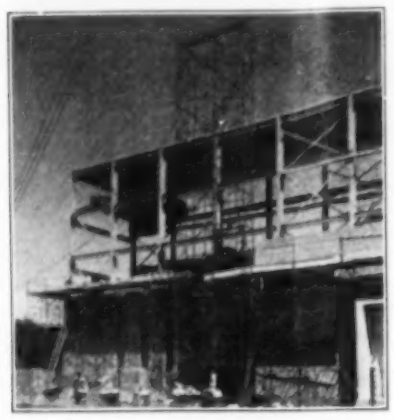
ELEVATING TABLE EXTENDED

ECONOMY ENGINEERING CO.
4502 W. Lake St.,
Chicago 24, Ill.

If you write maker identify as IEN - 12319

ELEVATOR . . Double hoist tower handles materials on construction job

Source: SAFWAY STEEL PRODUCTS INC.
6234 W. State St., Milwaukee 13, Wis.



One day to erect

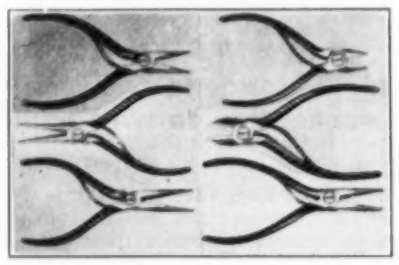
Illustrated is new double assembly of the company's construction elevator in which the frame is based upon standard tubular sections braced with steel tube. The metal parts are treated for corrosion resistance. The installation shown in the illustration is 68 ft. in height. It operates two 70-in. square platforms alternately. Individual platform capacity is 3,100 pounds. Maximum height to which a single tower can be erected is 200 feet. The wire hoisting rope is ⅝ in. and operating speed is maximum at 160 ft. per minute.

At the top of the tower, the cathead assembly supports a 16-in. sheave. It is mounted on a bronze bushing with Alemite grease fittings. On the lower end of the tower, a swivel attachment feeds the hoist rope in from the driving engine. This attachment follows the movement of the rope to prevent binding. A safety device stops the cage in the event of rope failure. Cage position can be controlled accurately to any level.

If you write maker identify as IEN - 12320

PLIERS . . Forged steel tools for precision bending and cutting

Source: MATHIAS KLEIN & SONS
3202 Belmont Ave., Chicago 18, Ill.



Series 300 and 200

Duck Bill, Long Nose and Chain Nose are three new pliers shown to the left in the illustration. The first has jaws wide enough to hold small springs and small enough to form wire in confined spaces. The second is made on a slim pattern with knurled jaws to provide a positive grip. The third has a fine knurl that will not damage soft wire. It also is available, to order, without the knurl. The first two are 5½ in. in length. The third is 5 inches.

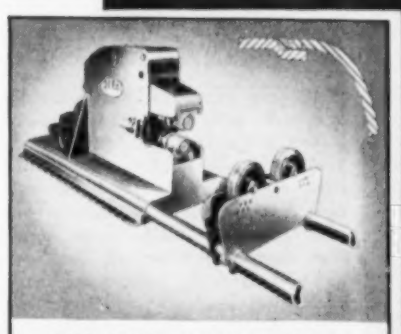
To the right are three cutting pliers known as Lightweight, Oblique and Transverse End. The first features a very narrow head and flush operation of the knives against a cutting surface for their entire length. The second is designed to cut small wires and for trimming operations. The knife edges in this plier also cut for their entire length flush against a surface. The third plier permits a clean flush cut where oblique or end cutters cannot be employed. The first unit is made in one 5-in. size. The second is available in 5 and 6-in. lengths. The third is a 6-in. unit.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12321

REED ENGINEERING COMPANY

Modern Metalworking Equipment



REED OFFSET FORMING MACHINE

- ★ Improves automatic welding production by eliminating chill-rings and backing bars
- ★ Forms offset weld-backing joggle from tank shell
- ★ Loosens rust and mill scale
- ★ Improves shell roundness
- ★ Two models: M-2—1/16 to 3/16" plate M-4—3/16 to 7/16" plate

BENDING ROLLS
TURNING ROLLS
AUTOMATIC WELDING FIXTURES

WE INVITE YOU . . . to write us for specifications, prices, list of REED users near you. No obligation. Just write on your letterhead.

REED ENGINEERING CO. 1009 W. FAIRVIEW CARTHAGE, MO.

If you write maker identify as IEN - 12322

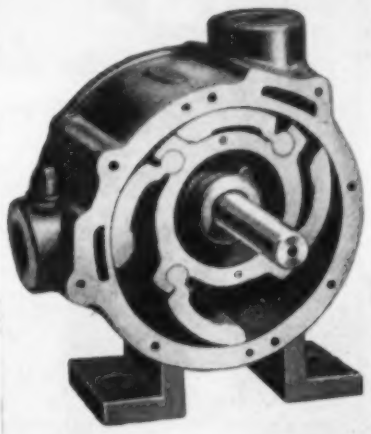
If the equipment you design calls for 29.9" of vacuum or 25 psi pressure

READ what your prospects say about LEIMAN Pumps

"Never wear out."

"In almost continuous operation, 24 hours a day for 21 years. Absolutely reliable."

"Requires practically no maintenance care."



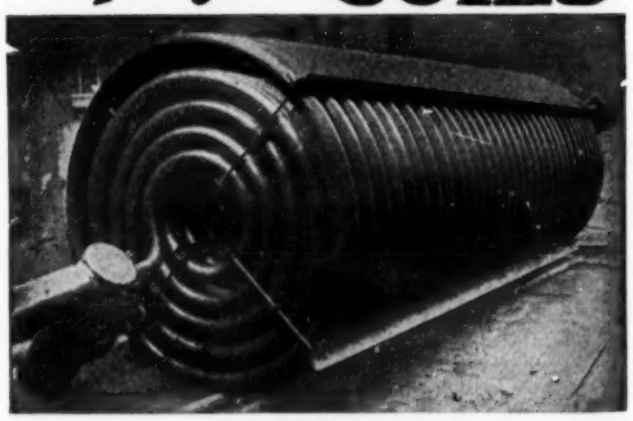
Wings in this Leiman Pump take up their own wear, year after year, and always maintain contact with cylinder wall. *See our Listing in Sweet's Product Design File*

Write for 16-page catalog and blueprints of typical applications on Leiman rotary positive pumps—choice of industry since 1889.

LEIMAN BROS., INC.
166 Christie Street, Newark 5, N. J.

If you write maker identify as IEN - 12323

PITTSBURGH a air p pressure t tested COILS



Pipe Coils • Bends • Boiler Tubes

Built for your particular needs. Send blue print or rough sketch for Pittsburgh quotation. Also air-pressure tested welded Headers, Welded Ammonia Receivers, Accumulators, Pipe Coils, Bends, Boiler Tubes. "Let us quote!"

Ask for Pipe Coil Data Book

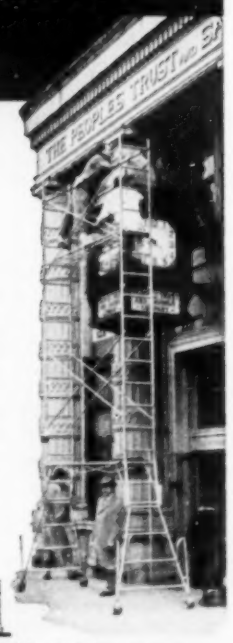
Pittsburgh Pipe Coil & Bending Company
Division of Pittsburgh Standard Conduit Co.
61 BRIDGE STREET ETNA, PITTSBURGH 23, PA.

If you write maker identify as IEN - 12324

where SAFETY and FLEXIBILITY are both important . . . .

Specify BIL-JAX

MAINTENANCE TRESTLE



. . . gives work platform of expanded metal at any elevation from one foot above floor on up. Gets to the hard-to-reach places. Ball-bearing casters (locking type) make it easy to maneuver. Patented. U. L. approved. Rent or buy. Distributors in principal cities. Write for catalog. Address Dept. L-11.

Portable and swing scaffolds, hoisting towers, ladders, side brackets, ladder jacks, putlogs.

West Coast: 216 W. Los Feliz Rd., Glendale, Calif.
Export Office: 80 Broad St., New York 4, N. Y.

GETS YOU UP IN THE WORLD BIL-JAX INC. Archbold, Ohio

If you write maker identify as IEN - 12325

NEW heavy-duty "form-forged"* casters

- For loads up to 1500 lbs. each.
- Double ball race — fully hardened raceways.
- 2½" tread width. Forged, semi-steel or rubber tread wheels.
- 5", 6", 8" and 10" sizes.

*Form-forged in 300-ton hydraulic presses.

● Use these rugged new heavier steel casters for the rough, tough jobs—such as powered assembly-line dollies, heavy trucks and equipment. Their performance will please you as much as their low price. Write for complete story. THE BASSICK COMPANY, Bridgeport 2, Conn. *In Canada:* Belleville, Ont.

Bassick — A DIVISION OF STEWART SW WARNER

MAKING MORE KINDS OF CASTERS . . . MAKING CASTERS DO MORE

If you write maker identify as IEN - 12326

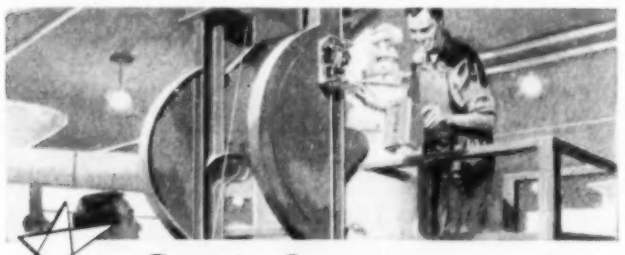
THE THREE CUTLER-HAMMER STARS ★ ★ ★ STAND FOR THREE NEW STANDARDS

Installs easier

The cost of installing motor control today is usually much more than the cost of the control equipment, often two to three times as much. Thus this new control offers *large* savings.

Works better

Users say, "Nothing like this ever before." Smooth, quiet operation with uniform response. New adjustable overload protection lets motors work harder with fewer nuisance interruptions.



Lasts longer

Revises all existing ideas of long trouble-free life in motor control. Cuts rate of wear to point that maintenance care and cost are virtually eliminated for 90% of all control uses.

The three silver stars on the famous Cutler-Hammer nameplate identify the new spectacular Cutler-Hammer ☆☆☆ Motor Control and stand for three entirely new standards in motor control satisfaction and value. ☆ 1. . . . Easier, faster, lower cost installation. ☆ 2 . . . Time-saving, trouble-saving, cost-cutting better performance. ☆ 3 . . . Amazingly longer life. Compare it. You too will say it is the finest control you know. CUTLER-HAMMER, Inc., 1378 W. St. Paul Avenue, Milwaukee 1, Wisconsin.

TRY IT! COMPARE IT! TEST IT! PROVE IT!

CUTLER-HAMMER ★★★ MOTOR CONTROL C-H

Order from your nearby Authorized Cutler-Hammer Distributor today.

CUTLER-HAMMER ★★★ MOTOR CONTROL

If you write maker identify as IEN - 12328

CONTROL . . Electronic equipment to sequence a gas or oil burner

Source: COMBUSTION CONTROL CORP. 718-22 Beacon St., Boston 15, Mass.

Bulletin CP522

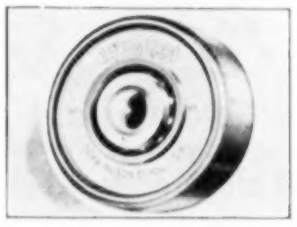
Type 26RJ8, Model 100S is a new Fireye oil and gas burner control. It provides for automatic burner start, operation and shutdown in combination with selection of any of three types of ignition operation to comply with Factory Mutual Laboratories. The fail-safe circuit prevents operation when unsafe.

Fuel is shut off within 2 to 4 sec. after a burner flame goes out so there is no explosion hazard. Operation is on 110/220-volt 60-cycle ac.

If you write maker identify as IEN - 12329

CONVEYING . . Ball bearing wheel rides ¼ in. shaft, for gravity units

Source: UNION HARDWARE CO. 535 Migeon Ave., Dept. IEN, Torrington, Conn.



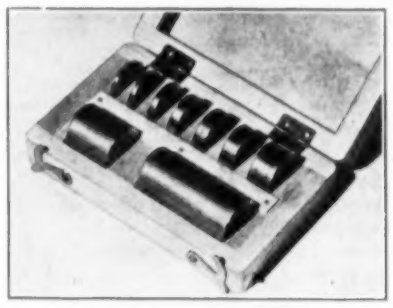
Sample on request

Two rows of hardened steel balls, 18 in each row, are enclosed in hardened steel raceways in this 1⅞-in. wheel. It was designed initially for use in roller skates, now is available also as a component part for gravity wheel conveyors. Width is ⅝ inch. The inner race fits a ¼-in. shaft.

If you write maker identify as IEN - 12330

GAGE . . Precision blocks 9 piece set, accurate to 50 millionths

Source: TRANSOCEAN TRADING CO. 6451-55 Santa Monica Blvd., Los Angeles 38, Calif.



Made in Germany

Individual blocks in this new 9-piece set measure 1 in. in diameter and range from 0.0625 to 2.0000 inch. The set makes up into 331 combinations. They present a rigid balanced gage when stacked for vertical dimensions. They hold securely when wrung together. A multiple assembly can be handled the same as a solid bar. List price is $27.50.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12331

Here's a maintenance control system that holds . . . *to an absolute minimum* . . . machine down time, idle man-hours and inventory investment. In addition, this maintenance management system gives you the valuable, accurate equipment records . . . and provides accurate data for executive reports, so that management can act surely, swiftly.

With Sched-U-Graph you have instant, *visible* control of your work load, resulting in a maximum utilization of your work force with minimum paperwork. And Kardex Visible Record equipment pinpoints trouble-making machines . . . helps to minimize costly down time.

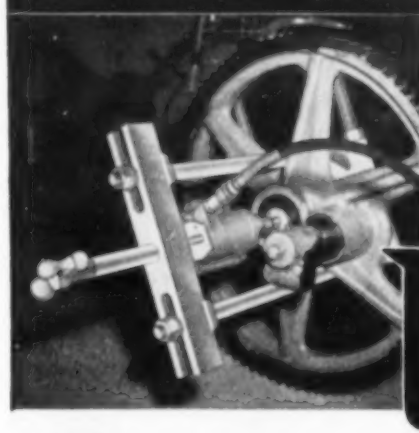
For more information send for free folder X1383, "Assured Equipment Productivity Through Maintenance Management," Remington Rand Inc., Room 1400, 315 Fourth Ave., New York 10.

Remington Rand INC.

PROFIT-BUILDING *IDEAS* FOR BUSINESS

If you write maker identify as IEN - 12332

PUSH . . . PULL 75% FASTER 90% EASIER



WITH THE CENTER HOLE

OTC

50 TON HYDRAULIC PULLER

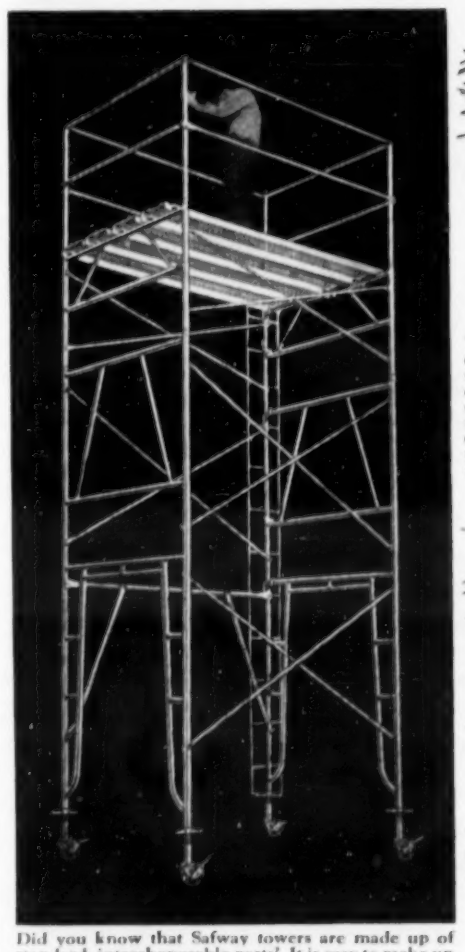
Removes or installs bearings, gears, pinions, shafts, studs, wheels, pulleys, etc.—75% faster and 90% easier. This new OTC 50 ton ram is completely portable (weighs only 45 lbs.)—has remote control pump—interchangeable ram heads—and can be used as a production holding fixture. Also available in 17½ and 30 ton sizes. *Booklet describes complete line and uses of OTC equipment.*

WRITE FOR FREE BOOKLET

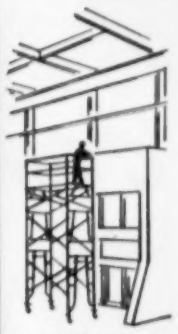
OWATONNA TOOL COMPANY
371 CEDAR STREET • OWATONNA, MINN.

If you write maker identify as IEN - 12333

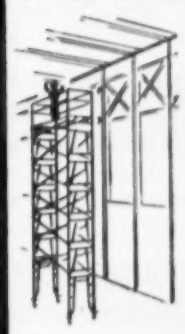
ROLLING TOWERS PUT SKILLED HANDS TO WORK EFFECTIVELY



Did you know that Safway towers are made up of standard, interchangeable parts? It is easy to make up your tower to any convenient size.



Your Safway tower simplifies the lubrication of high machines, presses and cranes and speeds the servicing of overhead motors, unit heaters and conveyor systems.



Now it is easy to work on ceiling level ducts for electric cables and buses, on steam and water pipes and line shafts.

CONSIDER THE TIME AND PROFIT you gain by SAFELY putting your skilled workers close to the job they're doing. The Safway rolling tower does just that. On maintenance and repair jobs, for example, it follows the work . . . along building walls, down corridors. It will help you put your skilled hands to work more profitably for you.

Your Safway rolling tower fits your job requirements to a "T." Not only are platforms adjustable to convenient working heights, but parts are standard and interchangeable. And your tower locks in position firmly with brakes on both wheels and swivel. The platform provides a generous working area and is protected by a sturdy guard rail.

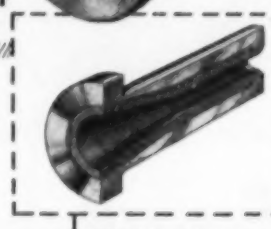
For more facts contact one of the 137 Safway distributors near you. Or write direct for free bulletin.

SAFWAY STEEL PRODUCTS INCORPORATED
6228, West State St.
MILWAUKEE 13, WIS.
Manufacturers of Tubular Steel Scaffolding and Equipment

If you write maker identify as IEN - 12335

Why put up with
fast wearing blast cleaning nozzles?

This SUPER-HARD BORIUM INSERT protects the *entire* nozzle from wear



When blast cleaning nozzles are equipped with tungsten carbide "BORIUM" liners, you save many ways:

- Rapid cut-outs are eliminated.
- Wear resistant liners retain orifice size longer.
- High air velocity is maintained.
- Pattern is tightly concentrated.

. . . Result? less down time, fewer nozzle changes. MORE and faster work accomplished.

300 minimum hour guarantee when cleaning with sand or most other common abrasives. Special BORIUM inserts made to order for your nozzle design. Standard screw and flange BORIUM NOZZLES carried in stock.

STOODY COMPANY
11930 E. Slauson Ave., Whittier, Calif.

If you write maker identify as IEN - 12336

Model 218

Defense orders are coming to the clean plants because they can handle production efficiently. Be sure your plant operation is not handicapped by litter, dirt or other debris.

Send today for important Doyle Vac-It information. There's no obligation.

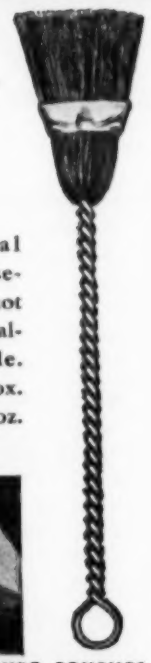
Doyle VACUUM CLEANER CO.
2235 Stevens St., S. W. Grand Rapids 7, Mich.

If you write maker identify as IEN - 12337

Mechanic's Chip Brush

- Improved Design
- More Efficient
- Longer Lived
- Acid Resistant
- Alkali Resistant
- Lower Priced

● Genuine natural horsehair bristles securely locked, cannot pull out. 12 gauge galvanized wire handle. Packed 2 doz. per box. Price, $3.00 per doz. F.O.B. Rockford.



CLEANING T-SLOTS
APPLYING COOLANT
WRITE FOR CATALOG SHEET

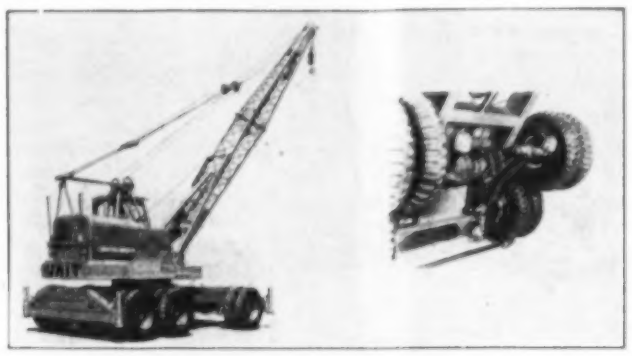
STANDARD AND SPECIAL TWISTED-IN-WIRE BRUSHES
- ONE BRUSH OR A CARLOAD -

SEE YOUR MILL SUPPLY DEALER OR WRITE
Biltwell Brush Co.
225 S. CHURCH ST. • ROCKFORD, ILLINOIS

If you write maker identify as IEN - 12338

CRANE . . Mobile assembly rates 20 ton on 35 ft. boom at 10 feet

Source: UNIT CRANE & SHOVEL CORP.
6335 W. Burnham St., Milwaukee 14, Wis.



Uneven ground is no problem

New design of heavy duty welded undercarriage is announced by the company for its Unit-1520 mobile crane, previously described IEN-11565-51. The carriage assures stability in handling very heavy loads. It employs a double arrangement, walking beam principle, to equalize support at the wheel spindles. Each wheel carries its part of the load without transfer of weight from one axle to another so there is no distortion of the tandem rear wheels and maximum traction is available over uneven surfaces.

The crane can be traveled over the road at speeds to 30 miles per hour. It can be set up for duty as a crane or for conversion to a dragline, shovel, trench hoe. When rigged as a crane, it will take booms to 70 ft. in length. When its outriggers are in place, a 35-foot boom will handle a 20-ton load on a 10-ft. working radius.

If you write maker identify as IEN - 12339

SAWING . . Hack saw machine is carried to job and clamped to work

Source: LIPE-ROLLWAY CORPORATION
804-8 Emerson Ave., Syracuse 1, N. Y.

Stops itself at end of cut

Model C is new design of the draw-cut Hand-I-Hack machine, previously described IEN-3259-48. Weight has been increased from 48 to 50 pounds. The draw cut action includes "lift" on the return stroke and an adjustment by which sawing pressure can be regulated to cut solid stock or thin tube and soft materials. Sawing speed is 115 strokes per minute.

Capacity is for work to 3 by 3 in. when the machine is set to cut square. Its swivel vise sets around to make a cut to a maximum angle of 45 deg. at which point the capacity is 1½ by 3 inches. The machine can be employed for utility work in a tool room or for general plant use by maintenance men.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12340

ARO
1000 pound AIR HOIST

SPEED...
Lift rate . . . over 40 ft. per minute!

SIZE...
Overall length 10¼" weighs only 28½ lbs.

SAFETY...
Betters all safety requirements!

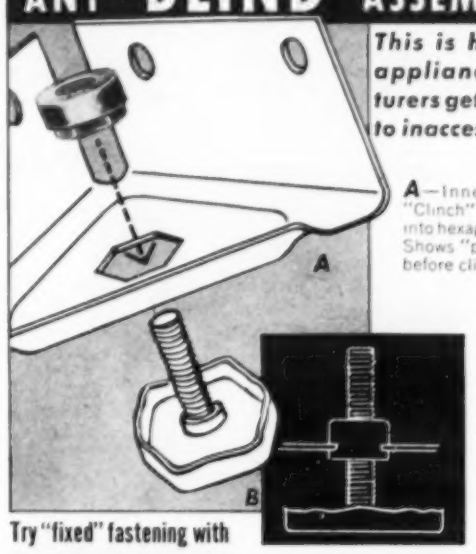
Write for full details.
The Aro Equipment Corporation
Bryan, Ohio
Offices in All Principal Cities
In Canada—Aro Equipment of Canada, Ltd. Toronto, Ont.

ARO AIR HOIST
Also . . . Air Tools . . . Lubricating Equipment . . . Aircraft Products . . . Grease Fittings

If you write maker identify as IEN - 12341

ANY "BLIND" ASSEMBLIES?

This is how leading appliance manufacturers get fasteners into inaccessible places.



A—Inner View. GRIPCO "Clinch" Nut ready to insert into hexagonal hole in metal. Shows "pilot" and hex hole before clinching.

B—Cross-Section view after pilot has been clinched and bolt inserted. Can be locked at any point. (Non-locking nut can be supplied if preferred)

Try "fixed" fastening with

GRIPCO "CLINCH" NUTS

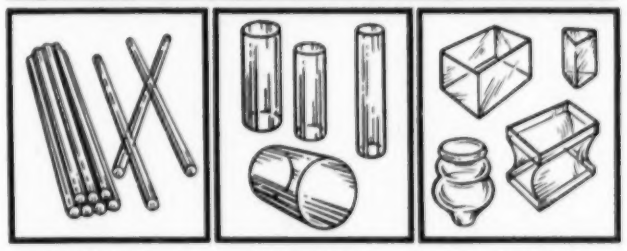
Do you have any application on which fastening must be made from a hard-to-get-at point; or do you need additional threading depth for applying bolts to thin metals? Investigate this method of firmly affixing GRIPCO "Clinch" Nut to the work so it is already in position when bolt is applied.

375

GRIP NUT COMPANY
310-S S. Michigan Ave., Chicago 4, Ill.
Write for samples, stating types and sizes of nuts used.

If you write maker identify as IEN - 12342

DUNBAR QUALITY GLASS TUBING AND GLASS CYLINDERS



GLASS TUBING CYLINDERS HOLLOW PARTS

Dunbar Glass Corporation specializes in drawing glass tubing with special diameters and wall weights from .120" to .750". Unusual uniformity of dimensions in relation to "commercial" tolerances is the rule rather than the exception.

Dunbar Glass Cylinders ranging in diameters from 1" to 12" are a specialty. Over a hundred stock moulds for different diameters and lengths are maintained for industrial customers.

Other special hollow shapes can be custom made for industrial usage. Send us your models or blue prints.

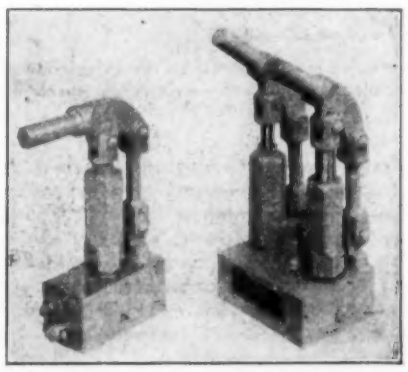
ASK FOR CATALOGUE

Dunbar Glass Corporation
DUNBAR, WEST VIRGINIA
NEW YORK-CHICAGO-CLEVELAND-LOS ANGELES

If you write maker identify as IEN - 12343

HAND HYDRAULIC PUMP

Single and Double Designs To 20,000 P. S. I.



Interchangeable Pistons ⅜ - ½ - ¾ inch
★
Integral Release Valve
★
Dual Pump Unit Reservoir 360 Cu. in.

Pressure range is 3,000 to 20,000 P.S.I. Pipe connections ¼" N.P.T. Handle length is 18 inches. Weight is 8 to 18 pounds. Unit can be bolted or welded into position. We specialize in hand pump units to operate in temperatures from minus 65 F. to 160 F. and with any capacity reservoirs required.

WILLIAM S. PINE
1637 E. 22nd Street, Los Angeles 11, Calif.

If you write maker identify as **IEN - 12344**

Years of Protection
With One Coat of
ROYSTON ALUMINUM MASTIC

Grain elevator protected by Royston Aluminum Mastic

- Protects against weathering, water penetration, absorption
- Resists corrosion by acid or alkali industrial fumes
- Ten times as thick as paint, non-reactive with other metals
- Remains flexible, won't peel, check, alligator, craze or pit
- Plasticized, for tight bond on metal, concrete or most brick
- Has heat reflective qualities typical of aluminum coatings
- Heavily pigmented with aluminum, two lbs. per gallon
- No sand blasting needed, easy to apply by brush or spray gun
- Ready-mixed, no thinner needed, covers 125 sq. ft. per gallon

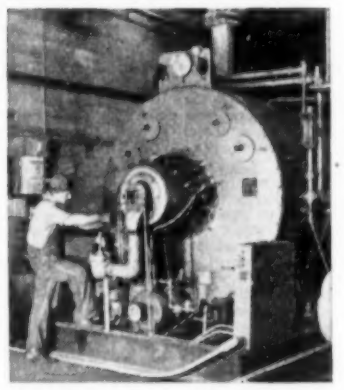
Royston Aluminum Mastic is specially designed to combine a heavily embodied, corrosion resistant film with the heat reflective qualities typical of liquid aluminum paints or coatings. While the finish is not as brilliant as that of aluminum paints, it gives far greater protection against weathering and water penetration or absorption. Royston Aluminum Mastic is of the same superior quality as other Royston Laboratories' "tailor-made" protective coatings for industry.

For complete information and samples write . . . . . .

ROYSTON LABORATORIES, INC.
P. O. BOX 112-J, BLAWNOX, PA.

If you write maker identify as **IEN - 12345**

9 REASONS WHY STEAM COSTS GO DOWN
where *Powermasters* go in . . . .



COST-SAVING INSTALLATION—
complete factory assembled and fire-tested units delivered ready for operation as soon as connected to service lines; no foundation or costly stack needed.

FULLY AUTOMATIC CONTROL
provides maximum operating dependability and safety protection with minimum attention of operator.

3-PASS BOILER
produces most efficient flue gas velocity and heat transfer with maximum maintenance convenience.

INFINITELY VARIABLE COMBUSTION MODULATION
maintains most efficient firing at all loads. Instant response to load swings from 20 to 100% saves fuel, assures constant steam pressure and temperature.

STAGGERED TUBES
assure quicker heating, faster steaming and high quality dry steam; prolong tube life.

FORCED DRAFT
gives most accurate control of combustion and supply; saves equipment and maintenance costs.

83% GUARANTEED MINIMUM EFFICIENCY
saves fuel. At less than full load, Powermaster efficiency actually increases!

MAINTENANCE-SAVING ACCESSIBILITY
to water and fire sides simplifies tube cleaning and inspection.

VORIFLOW COMBUSTION
with air-atomizing oil burner or pre-mix gas burner keeps fuel costs down and boiler efficiency high at all loads. Combination burner allows quick change of fuel.

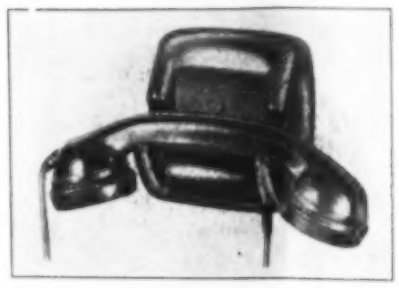
SEND FOR NEW BULLETIN 1219
Describes and illustrates all cost-saving features of Powermaster Packaged Automatic Boilers in sizes to 500 h.p. and pressures to 250 psi.

ORR & SEMBOWER, INC.
860 Morgantown Road, Reading, Penna.
BUILDERS OF COST-SAVING BOILERS SINCE 1885

If you write maker identify as **IEN - 12347**

COMMUNICATING . . Telephone, battery powered, in sets of two

Source: PAUL C. ROCHE COMPANY
11 Park Place, Dept. N, New York 7, N. Y.



Imported

Duo is a new telephone that operates on a standard flashlight battery. It will supply sufficient power for six to twelve months. A built-in buzzer is employed to signal individuals at the second of the two phones which make up a unit installation. The telephone is particularly suited for locations where it is not desirable to run the circuit through a switchboard and for remote locations where there are no switchboard facilities.

If you write maker identify as **IEN - 12348**

SEALING . . Plastic packing contains copper, lead, dry lubricants

Source: SURVEYS INC.
219 Euclid Ave., Dept. IEN-C, Trenton 9, N. J.

For vacuum and pressure

Old packing is removed and the new Copperstick is compressed into a stuffing box by gland take-up. Pressure, resulting from the take-up, induces cold flow so the plastic material assumes the shape of the box. As soon as the bushing has been formed, gland nut pressure is relieved and the packing is ready for service.

It is suited for rotating pump shafts and for use in valves, agitator stuffing boxes, expansion joints. Temperature is to 550 deg. F. for valves and expansion joints with unsupported pressure to 200 pounds. Temperature is to 300 deg. F. with pressure to 100 lb. at shaft speeds to 1,800 rpm. on pumps. Packaging is in 5-lb. cartons with stick sizes at ¼, $\frac{5}{16}$, ⅜, or ½ in. in diameter. List price is $2 per pound or $10 per carton.

If you write maker identify as **IEN - 12349**

CASTER . . Double ball swivel, 5 to 10 in. wheels, load to 1,500 lb.

Source: BASSICK COMPANY
439 Howard Ave., Bridgeport 2, Conn.

Folder 599-53

Form-Forged is a new heavy duty caster for use on assembly line dollies, heavy trucks. The body and forks are made of steel, formed to shape. The raceways are case hardened. Four sizes are 5, 6, 8 and 10 inches. Wheels are semi-steel, forged steel, or rubber tired. Both rigid and swivel designs are available.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 12350**

Take the GLARE out of Micrometer Reading with the "Lustro-Chrome" MICROMETER

MEASURE TO 1/10,000 th

ALL GRADUATIONS ARE WELL-DEFINED BLACK LINES ON DULL CHROME SURFACE WHICH MEANS EASIER AND SURER READING, EVEN IN POOR LIGHT.

GUARANTEED ACCURATE WITHIN ONE HALF OF A TEN THOUSANDTH OF AN INCH.

THE CHROME SURFACE IS EXTREMELY HARD AND NON-PEELING. IT PROTECTS THE TOOL INDEFINITELY FROM RUST AND DISCOLORATION.

DROP-FORGED MODEL WITH CHROME FINISHED MICROMETER HEAD, 10th VERNIER, FROM $9.25 UP.

No. 901 C 0-1" size with LOCK NUT and RATCHET and 10th vernier as shown

$13.25

This tool with TUNGSTEN CARBIDE tipped anvils $15.75

Dealers ! Here's a real profitable line

ASK FOR CATALOG ON OUR COMPLETE LINE OF MICROMETERS IN ALL SIZES.

GEO. SCHERR CO., INC.
COMPLETE LINE OF PRECISION INSTRUMENTS
200 -EN LAFAYETTE STREET • NEW YORK 12, N. Y.

If you write maker identify as **IEN - 12351**

THE Surest WAY TO FIND HIDDEN STRAY METAL

NEW USERS of Allis-Chalmers electronic Metal Detectors are usually surprised at the large number of pieces of stray metal detected in their packages. A typical comment is "It's a wonder we have any customers left."

Fortunately not all stray metal causes injury. And in most cases the customer never writes in about it. But your reputation suffers! Precautions lessen the problem, but the surest way to catch hidden stray metal — magnetic or non-magnetic — is with an Allis-Chalmers electronic Metal Detector. Metal particles .047 inch diameter and larger are detected.

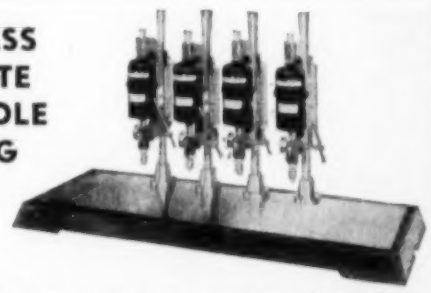
Call your nearby Allis-Chalmers Sales Office for 20 page bulletin 7217, which shows the many ways of applying A-C electronic Metal Detectors. A-3080

Allis-Chalmers
Milwaukee 1, Wis.

ALLIS-CHALMERS

If you write maker identify as **IEN - 12352**

EFFORTLESS ACCURATE SMALL HOLE DRILLING



For a decade Electro-Mechano machines have been used successfully by leading manufacturers. Proven design for small hole precision work includes:

- Super accurate chucking with choice of three types giving runout of .001", .0005" or adjustable to absolute concentricity.
- Minimum side play through use of smaller precision spindle bearings and widely spaced quill bushings.
- The exact speed for best drilling with continuously variable speed control: 150 to 4000 RPM, 1000 to 10,000 RPM or 2500 to 15,000 RPM.
- Minimum vibration—high speed units have direct motor drive, no belts.
- Special slow quill feed on dual feed models for drilling below No. 60. Air feed models with hydraulic control for high production small hole drilling.

Replace your old drilling equipment with top efficient Electro-Mechano Precision Drilling Machines. Your drilling problems and inquiries are welcomed.

WRITE FOR LITERATURE:

THE ELECTRO-MECHANO CO.
269 E. ERIE ST. MILWAUKEE 2, WIS.

If you write maker identify as **IEN - 12353**

TEMCO ELECTRIC FURNACE
assures precision heat treating of vital parts for the nation's armed forces
at RAYTHEON

In many leading plants, like Raytheon Manufacturing Co. of Waltham, Mass., you'll find TEMCO bench-type electric furnaces speeding production and lowering unit costs. 1600 Series, shown above, is large enough to take a wide variety of work, yet compact and convenient. TEMCO furnaces are made in eight sizes—with either manual or electronic controls. Economical, easy to install and operate. $55 to $507. Write for data and nearest dealer's name.

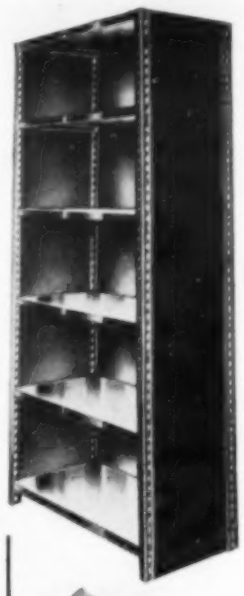
THERMO ELECTRIC MANUFACTURING CO.
482 Huff St., Dubuque, Iowa

If you write maker identify as IEN - 12354

FINEST

FOR OVER 45 YEARS

Equipto IRON-GRIP* Shelving



Just look at these features!

RUGGED CONSTRUCTION. Heavy gauge angled steel uprights on all 4 corners. Steel shelves boast super-powerful channel construction on sides.

EXCLUSIVE SHELF STUD. Saves 60% in assembly time. No nuts, bolts, clips or tools for speediest shelf assembly and adjustment. Permits quick adjustment of shelves on 1½" centers—entirely from front—without moving the unit.

ENORMOUS CAPACITY. Each shelf will hold 600 pounds regularly . . . 2000 pounds when reinforced.

MAXIMUM FLEXIBILITY. Every unit is complete . . . may be moved intact without disturbing assembly. Matching units may be added later.

See your Equipto Distributor or write for free catalog.

*A slope in keyhole joins with taper on stud to form tightest and strongest of grips...an exclusive Equipto design.

*Trade Mark Pat. Pend.

Equipto

Division of Aurora Equipment Company
655 Prairie Ave., Aurora, Ill.

Steel Shelving . . . Parts Bins . . . Drawer Units

If you write maker identify as IEN - 12355

Need a really rugged truck?

CLARK UTILITRUCS HANDLE THE TOUGHEST JOBS AT LEAST COST!

(FREE LITERATURE AVAILABLE)

Here are the most advanced 6000-7000 lb. fork trucks on the market today—Clark's gas or electric UTILITRUCS. Built to handle jobs that break the backs of less rugged trucks, these UTILITRUCS have proved their superiority in foundries, steel mills, stevedoring* and heavy warehousing. They represent an ideal balance of essential engineering features. They get more work done at less cost, for these reasons:

1. Easier to drive—All controls at the driver's fingertips, like an automobile; compact and more maneuverable; shockless steering; increased braking efficiency; 140 sq. inches additional visibility; 25 inches of free-lift; DYNA-TORK or HYDRATORK DRIVE available on gas model.

2. Easier to service—Complete accessibility on gas model: one-piece "zipper" hood folds back to expose engine; one-piece floorboard lifts up to expose master cylinder and transmission; swing-out battery. All service points easy to reach.

3. Built to take punishment—Welded, integral-unit box frame eliminates distortion; higher inch-pound rating; axle-to-frame mounting absorbs shocks and strains; new design wheel and backing plate seals out dirt and abrasives. Oil bath air cleaner and oil filter standard on gas model. Totally-enclosed drive motor, sealed-for-life bearings on electric model.

We invite you to compare the UTILITRUCS to any 6000-7000 lb. truck on the market! Without obligation, you can discuss them with your nearby Clark dealer, listed in the Yellow Pages of your phone book. Or write us for free descriptive literature.

*Special stevedoring model available

Industrial Truck Division
CLARK EQUIPMENT COMPANY, Battle Creek 49, Mich.

☐ Please send Utilitruc literature ☐ Please have representative call

CLARK EQUIPMENT

Name_____
Firm Name_____
Street_____
City_____ Zone____ State____

If you write maker identify as IEN - 12357

FURNITURE . . Demountable wood desk with cabinets, table top, shelves

Source: LEHIGH FURNITURE CORP.
16 E. 53rd St., Dept. IEN, New York 22, N. Y.

To suit any office requirement

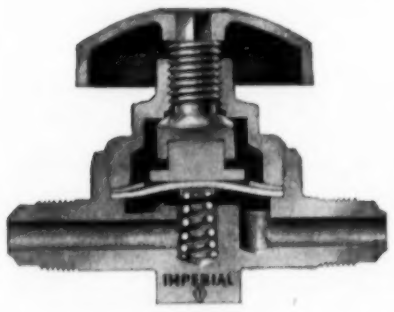
New assembly of unit parts permits setting up various combinations of office furniture as shown in the illustration. The component parts include 10 top sizes ranging from 30 by 48 in. to 36 by 96 in., four desk pedestals and 27 varieties of cabinets and shelves.

Desk tops and pedestals are surfaced with Realwood Formica in walnut and birch matched grains. Legs and hardwood are steel finished in black lacquer. Drawers are equipped with stock partitions. The cabinets and shelves are in various sizes and assemblies for given uses. The cabinets are provided with adjustable shelves, vertical dividers, hinged or sliding doors. Two depths are 14 and 18 inches.

If you write maker identify as IEN - 12358

VALVE . . Diaphragm type, packless design for pressure or vacuum

Source: IMPERIAL BRASS MFG. CO.
508 S. Racine Ave., Chicago 7, Ill.



Bulletin 3021

Red Head Series 490 is a new shutoff valve employing a solid Teflon diaphragm in clamped position between the forged brass body and the threaded bonnet. A formed brass plate backs the diaphragm around the head of the stem for support in open position.

The valve is suited for vacuum service and for pressure to 300 pounds. Temperature limits are from minus 100 to 450 deg. F. The Teflon provides soft seating action for tight closure. It is not subject to attack by liquids and gases other than fluorine, chlorine trifluoride and molten alkali metals.

Solder connections and 45-deg. flare ends are available in a tube size range from ¼ to ⅞ inch. The valve is available also with ⅜ and ½-in. female pipe threads. Styles include tube-to-tube, straight and angle designs, the latter being tube to pipe thread. Bolt ears are integral with the bottom of the body on the straight style.

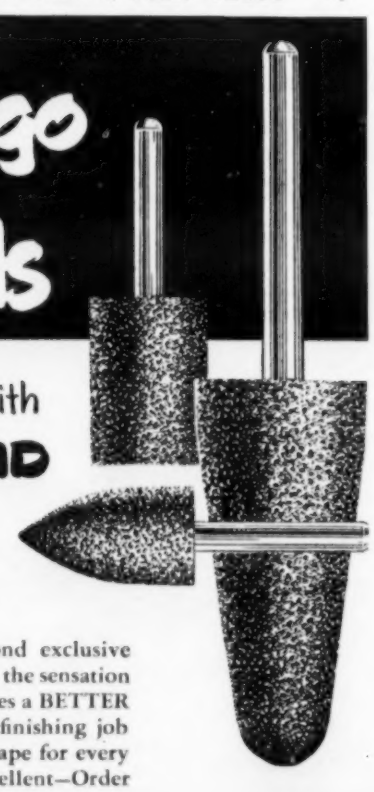
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12359

Chicago MOUNTED Wheels

...now even better with

79E BOND



Buy Chicago Mounted Wheels—bonded with 79E Bond—and you'll never use any other!

79E—a tough new bond exclusive with Chicago Wheel—is the sensation of the industry . . . it does a BETTER grinding, burring, and finishing job FASTER. A size and shape for every use. Deliveries are excellent—Order today.

CHICAGO WHEEL & Mfg. Co.
Dept. N • 1101 West Monroe Street, Chicago 7

If you write maker identify as IEN - 12360

FREE CATALOG!

available to you who are interested in the facts on open steel flooring.

Up to the minute information on the hows and whys of construction and installation of Tri-Lok Open Steel Flooring may now be at your finger-tips. Here is a four-page catalog designed to aid you in selecting the best types and styles of open-steel flooring for your particular construction project.

IN THIS CATALOG YOU'LL FIND

- Tables of Safe Loads
- Specifications required for open steel flooring installation
- Types of Tri-Lok Open Steel Flooring available
- Information concerning construction, sizes, strength and adaptability of Tri-Lok Open Steel Flooring

FOR YOUR COPY, WRITE FOR BULLETIN PW 1102

DRAVO CORPORATION
National Distributor for THE TRI-LOK CO.
Dravo Building, Fifth and Liberty Avenues, Pittsburgh 22, Pa.

If you write maker identify as IEN - 12361

For Safety's Sake...

DAV-SON

FLASHING SAFETY DIRECTOR

Easier to Read—Easier to Change

Flashing Dav-Son Safety Director for plant safety. Traffic light red, green spots flash "SAFETY FIRST." Color, motion, light compel attention. Only Dav-Son has *changeable letter* design with removable panel for frequent quick-change message. Say what you want when you want. 98 3½" red and 250 1⅞" black acetate letters in compartment box inc. Size 18½x29x6. 110-120 volts, AC-DC. **$39.75**

Insist on genuine self-sealing cork back bulletin boards with hardwood frames. Many sizes to choose from. With or without glass doors. Also with metal frames for inside or outside use.

Solve employee communication problems with DAV-SON bulletin boards. World's largest selection. 100 different styles and sizes. Write today for complete information.
Dealer Inquiries Invited.

DAV-SON **A. C. DAVENPORT & SON, INC.,** Dept. IEN
311 N. DESPLAINES STREET • CHICAGO 6, ILLINOIS

INSIST ON DAV-SON—YOUR BEST BUY

If you write maker identify as IEN - 12362

FORT WORTH INDUSTRIAL EXHAUST FANS

FOR PNEUMATIC CONVEYING AND DUST COLLECTING SYSTEMS

THE HEART of AIR HANDLING IS THE FAN

FORT WORTH

S-2 EXHAUST FAN has many features that assure satisfactory operation

- ★ Direction of discharge easily changed
- ★ Direction of rotation easily changed
- ★ Housing, blastwheel, and bearing stand are ruggedly constructed for vibration free operation
- ★ Designed for efficient operation
- ★ Exclusive Paddle-type construction enables blastwheel to handle long stringy material through fan.
- ★ Bearings: two anti-friction, self-aligning pillow blocks

Write for catalog 500, which gives performance data and dimensions of Fort Worth Exhaust Fans.

FORT WORTH STEEL AND MACHINERY CO
Dept. 211, 3600 McCart, Fort Worth, Texas

FORT WORTH WAREHOUSES:
• CHICAGO • ST. LOUIS • KANSAS CITY
• MEMPHIS • ATLANTA • JERSEY CITY
• LOS ANGELES • SAN FRANCISCO • HOUSTON

OTHER FORT WORTH PRODUCTS
ROLLER CHAIN SPROCKETS
SCREW CONVEYORS and ACCESSORIES
SCREW ELEVATORS

If you write maker identify as IEN - 12363

Severance CARBO-MILLS GROUND-from-the-Solid

The all-purpose CARBIDE mill at LOW cost. Use them same as you would High Speed mills or Rotary Files — Same machines — Same speeds (or higher). No more, time consuming, "kid-glove" care. Just chuck them up in your regular equipment and watch these RUGGED CARBO-MILLS go to work!

SOLID CARBIDE CUTTING HEADS

CARBO-MILLS ASK NO SPECIAL FAVORS

3/32" SHANKS

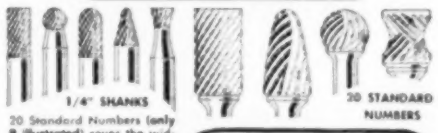
7 Standard Numbers, featuring REAL cutting teeth to remove stock faster over long periods of use—as well after regrinding as when new.

CARBO-MILLS by the ORIGINATOR of Ground-from-the-Solid Mills

1/8" SHANKS
12 STANDARD NUMBERS
THE POPULAR WORK BENCH SET

NO PROBLEM OF TOOTH CHIPPING OR BRAZE-FAILURE

CARBO-MILLS PREFERRED BY OPERATORS!



1/4" SHANKS

20 STANDARD NUMBERS

LAST UP TO 75 TIMES LONGER THAN ROTARY FILES OF HIGH SPEED

20 Standard Numbers (only 9 illustrated) cover the widest possible range of uses. Don't continue losing valuable time and money; replace your less efficient Rotary Files with these longer lasting, faster cutting, stamina possessing, CARBO-MILLS at the earliest possible moment!

DIE MAKERS! ASK FOR THIS SET

Furnished to you in a sturdy wooden case, Di-cor Set No. 40 is a set of 8, ¼" shank CARBIDE mills designed and instituted specifically for you, the Tool and Die Maker. Specially selected shapes — Special tooth patterns and cuts for all types of precision Tool and Die work. You will ply your skills easier and faster than ever before with these personal finishing mills. These CARBIDE mills need absolutely no coddling and will win their way to the the most favored spot on your Work Bench! Send for complete information and prices today! Ask for Leaflet No. 645

GROUND-from-the-Solid

REGRINDING — Due to CARBO-MILLS being made of Solid Carbide repeated savings are made possible through successive regrinds.

INVESTIGATE NOW!

FOR COMPLETE INFORMATION AND PRICES SEND FOR BULLETIN CM.

SEVERANCE TOOL INDUSTRIES, INC.

740 Iowa Avenue • Saginaw, Michigan

If you write maker identify as IEN - 12364

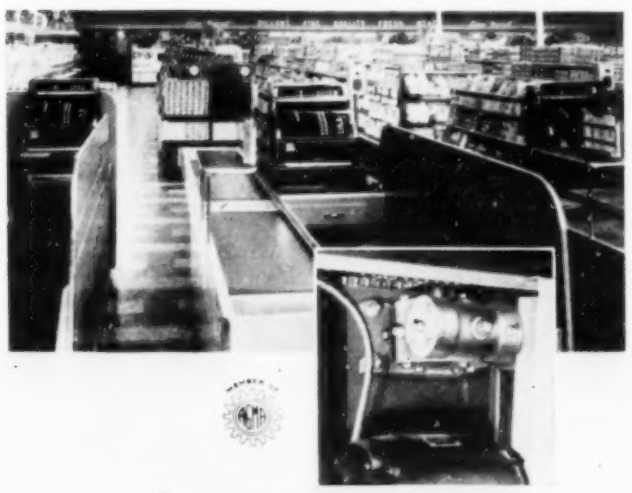
Carrying meats, vegetables and groceries past the cash register to the wrapping clerk, at 18 ft. per minute, check-stand conveyors send super market shoppers quickly on their way in Dillon's 25 Kansas food stores.

Depended on to turn each of the grocery-laden belts at correct speed is a Winsmith Speed Reducer, special assembly Model 2B, with a reduction ratio of 48:1. "...the only reducer which would fit in the limited space beneath the checkout counter and give proper operation," states J. S. Dillon and Sons Food Stores Co., Inc.

Compactness, coupled with ruggedness and dependability, have made Winsmith Speed Reducers essential components of numerous types and makes of essential equipment. Worm, helical and differential units are promptly available within the range of 1/100 to 85 hp in 1.1:1 to 50,000:1 reduction ratios.

Request catalog 148 for details.

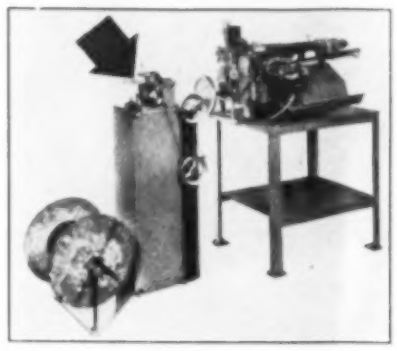
WINSMITH, INC.
10 DAVIS ST.
SPRINGVILLE (Erie County), N. Y.



If you write maker identify as IEN - 12366

FEEDING . . Motor driven machine supplies wire from reel at steady rate

Source: ARTOS ENGINEERING CO.
2755-59 S. 28th St., Milwaukee 46, Wis.



Takes wire from reel

Intermittent pull that can result in unsteady wire feed to a measuring, stripping and cutting machine is absorbed by this new Prefeeder Type AE-266. It mounts between the supply reel and the company's wire measuring, cutting and stripping machine to compensate for the slight difference in payout speed of wire, in relation to the stripping machine, by intermittently speeding up and slowing down.

Drive is by a ¼-hp. motor controlled through the circuit of the measuring machine so both machines will be certain to start together. Actual power supply for the motor and the two solenoids that regulate the feeder action is separate.

If you write maker identify as IEN - 12367

INSULATING . . Laminated sheet for circuit breakers, coil washers

Source: WESTINGHOUSE ELECTRIC CORP.
511 Wood St., Dept. IEN, Pittsburgh 30, Pa.

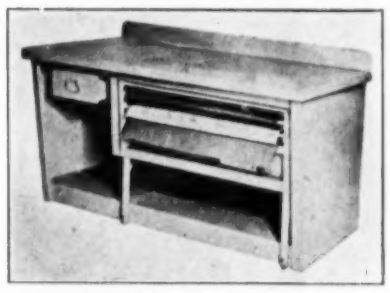
Technical data upon request

Micarta No. 20608 is a new grade of laminate. It employs glass mat reinforcement for good electrical insulating characteristics combined with resistance to moisture penetration, toughness and high impact strength. Moisture absorption is 0.35 per cent for a ⅛-in. panel. Dielectric strength is 350 volts per mil. The new material is available in $\frac{1}{16}$ to ¾-in. thickness in panels measuring 28 by 37 inches.

If you write maker identify as IEN - 12368

PACKAGING . . Packaging bench fitted with paper holders and cutters

Source: HARTMAN METAL FABRICATORS
66 N. Main St., Dept. IEN, Fairport, N. Y.



Takes paper in rolls

New steel bench measures 36 by 70 by 34 inches. It is fitted with a drawer for tools and supplies and with a retractable carrier for three rolls of wrapping paper and a cutting knife for each roll. The bench top employs wood to deaden noise. It provides a convenient means to wrap products for storage and shipping.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12369

ANGLE STEEL EXCELSIOR BIN

Made of heavy gauge steel

Reinforced and welded. Cover closes automatically in case of fire.

Essential for storing inflammable material of all kinds. Holds 2 standard bales of excelsior.

No. 186—33" high x 48" wide x 24" deep (inside dimensions) overall height 37". Furnished with 2½" Steel Pintle Casters. Shipped set up with A. S. olive green baked enamel finish.

For additional information send for FREE Literature giving Company Name and Title to

ANGLE STEEL INC.
DEPT. 3, PLAINWELL, MICHIGAN

If you write maker identify as IEN - 12370

Here's how

R. Hoe & Co. saved $2100 in only 3½ days with this

"PUTTIN'-ON-TOOL"

R. Hoe & Co., Inc., a leading manufacturer of large newspaper presses, stocks a wide range of flame-hardened precision gears as replacement parts.

Each gear, however, has to be furnished to a specified bore diameter. Making up specials or re-boring to specifications would be much too costly.

So HOE adjusts these bore diameters with a "puttin'-on-tool". Their new Chromaster plated 81 gears with deposits ranging from .0002" to .005" in 3½ days. Savings: $2100!

Chromaster can save you money, too. It is easily operated without previous plating experience. One of the six models will meet your needs. Write today for complete information.

Chromaster INDUSTRIAL CHROME DIVISION WARD LEONARD ELECTRIC CO.

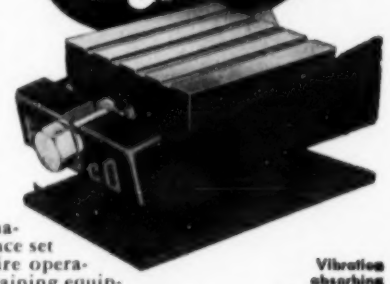
33 South Street, Mount Vernon, N. Y.

If you write maker identify as IEN - 12371

Here's how to SAVE TIME in SETTING-UP and KEEPING your MACHINES LEVEL

Fast Accurate Self-Aligning Machine Leveler

Empco JACK



Empco Jacks enable you to meet hurry-up demands for relocation of machinery by giving you the fastest, easiest, most accurate machine leveling ever known: you simply raise or tilt machine sufficiently to allow the Empco Jacks to be slipped under base. The number of jacks required depends on weight of machine and size of base. Once set on Empco Jacks, the entire operation of leveling and maintaining equipment level is quickly done. By applying a wrench to the "hex" head of adjusting screw, an adjustment is obtained either up or down until your level indicator reads "zero." Write for specifications and prices today.

Vibration absorbing mounting pads increase machinery life.

EMPCO PRODUCTS

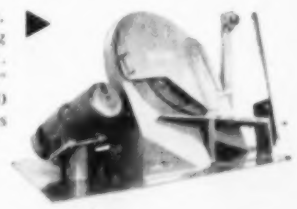
THE ENTERPRISE MACHINE PARTS CORPORATION
2737 JEROME AVENUE • DETROIT 12, MICHIGAN

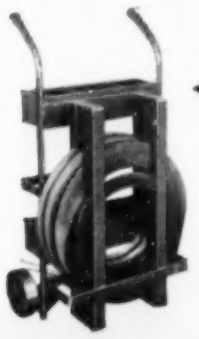
If you write maker identify as IEN - 12372

SIGNODE Strap Dispensers Speed Strapping

Model DF-10. A portable dispenser built to speed strapping at packaging stations in your shipping room. Built to rigid specifications, it feeds strapping at the right height and position for fast, easy operation. Has handy shelf for tools and seals. Signode "Straptroller" controls flow of strap.

Model DP Power Strap Dispenser. Cuts heavy-duty strapping to length quickly, accurately. Three models—¾", 1¼" or 2" ribbon-wound coils. Feeds 6-10 ft. of strap per second. Eliminates operator fatigue.

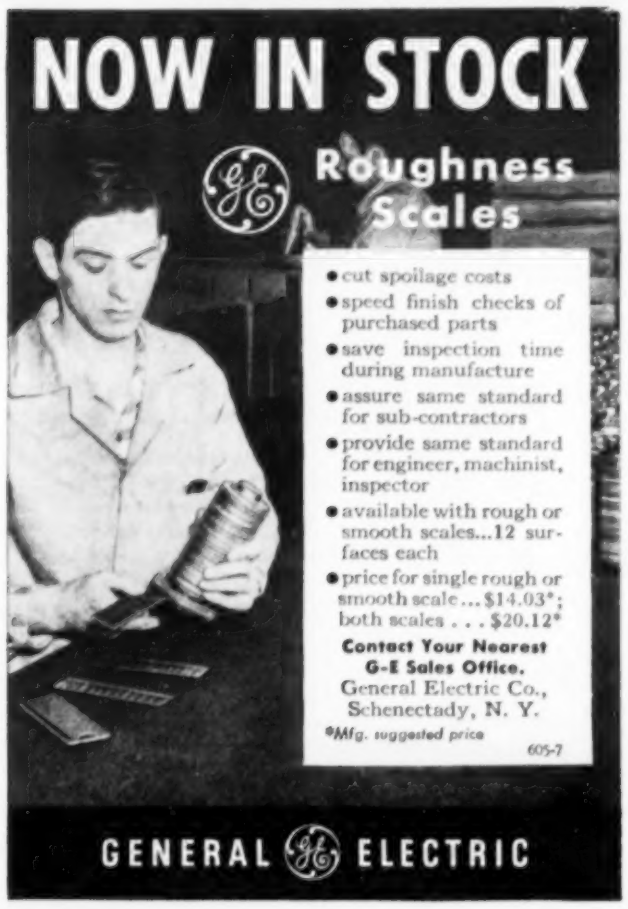




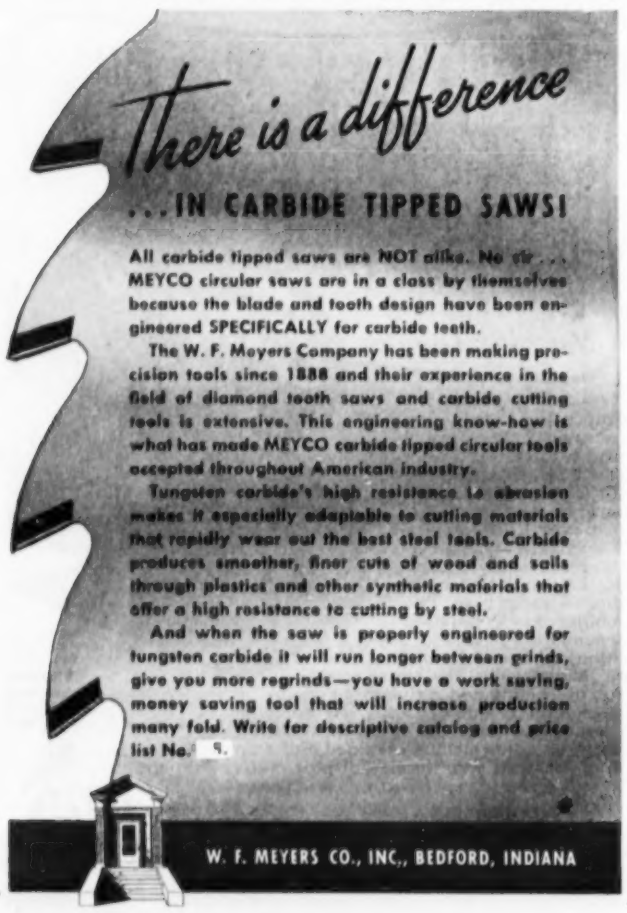
Model DT-114. For handling ¾", 1¼" or 2" heavy-duty strapping, taking securing materials to jobs in yards, on loading docks, or in freight cars. Ample space for seals, tools, anchor plates, nails, etc. Ruggedly built. For details of any one or all three strap dispensers write, Signode Steel Strapping Co., 2611 N. Western Ave., Chicago 47, Ill.

THIS SEAL MEANS SIGNODE SECURITY IN SHIPPING

If you write maker identify as IEN - 12373



If you write maker identify as IEN - 12374



If you write maker identify as IEN - 12375

If you write maker identify as IEN - 12376

RELAY . . Pneumatic time delay provides two intervals in sequence

Source: ELASTIC STOP NUT CORP.
1022 Newark Ave., Elizabeth, N. J.

For sequence control

A second switch has been added to the standard Agastat pneumatically controlled time relay to provide for two delay intervals in adjustable sequence. The new switch applies on the bottom of the standard assembly as shown in the illustration. It rates 10 amp. at 110-volt ac. as compared with the standard 15-amp. switch in the relay assembly.

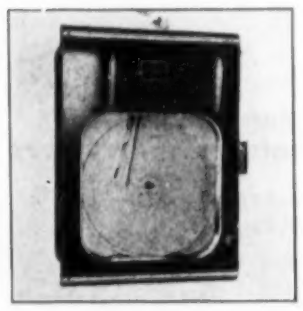
Overall interval is adjustable from 0.1 sec. to 10 min. or more. The auxiliary switch can be adjusted to operate at any time to 15 sec. after the start of the overall time delay period.

The delay interval starts upon energizing the relay solenoid in Types NET-11 and NET-12. The auxiliary switch operates after the adjustable interval and, at the end of the adjustable overall interval, the switch operates. Both hold until the coil is de-energized. Then they return to their normal positions. Two additional types, NET-21 and NET-22, complete the new line. In this case both switches operate as soon as the coil in the relay is energized. Time delay starts when the coil is de-energized. Then the auxiliary switch returns to normal after its adjustable interval and the relay switch returns to normal at the end of the overall delay period. The first two units are single-pole, double-throw double-break design. The second two are double-pole, double-throw single-break units.

If you write maker identify as IEN - 12377

CONTROL . . Electronic instrument designed to regulate process variables

Source: BRISTOL COMPANY
107 Bristol Road, Waterbury 20, Conn.



Bulletin B-226

Series 500 designates a new line of electronic indicating and recording controllers to regulate process variables such as flow, humidity, liquid level, pressure, temperature, vacuum. Minute changes in the variable, 0.25 per cent of full scale at the set point, are sufficient to actuate the control mechanism. Control action is not affected by change in ambient temperature, line voltage. The electronic tubes employed in the circuit need not be matched in sets for operation.

The measuring element in the instrument moves a pen or pointer in step with the variable fluctuations. It carries a metal vane toward and from two control coils in an oscillator circuit. The movement changes inductance in the circuit and this change is employed to actuate the control.

The line includes controllers for low-open, high-open, low-high, low-open-high, low-normal-high and proportional-input action. One or two recording pens, or indicators, can be combined in one case.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12378

If you write maker identify as IEN - 12379

If you write maker identify as IEN - 12380

If you write maker identify as IEN - 12381

A newly designed instrument to improve the performance of tests and uniformity of data on cold flow and stability of petroleum oils. Designed to conform with specifications of ASTM D 97.

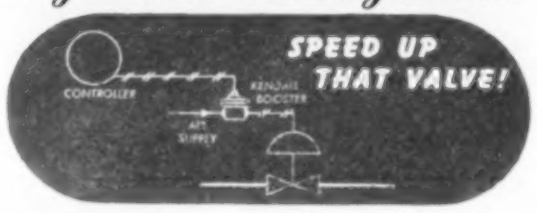
Has improved insulating cover with large opening for ice or CO_2. Labtone finish protects the insulated bath against corrosion.

Write for booklet FS-209-Q for more information on Fisher Tag Cloud and Pour Point Tester and other petroleum testing equipment.

FISHER SCIENTIFIC
717 FORBES ST. PITTSBURGH 19, PA.

If you write maker identify as IEN - 12382

Engineered Air Regulation



We say—**It's easy and inexpensive to minimize valve response lag in even the biggest diaphragm motor or cylinder type actuator when a KENDALL Booster triggers the action.**

Prove our statement by testing this air volume amplifier on your most sluggish valve.

Write for Bulletin 4522 describing the Kendall Model 20 Precision Air Volume Booster with its

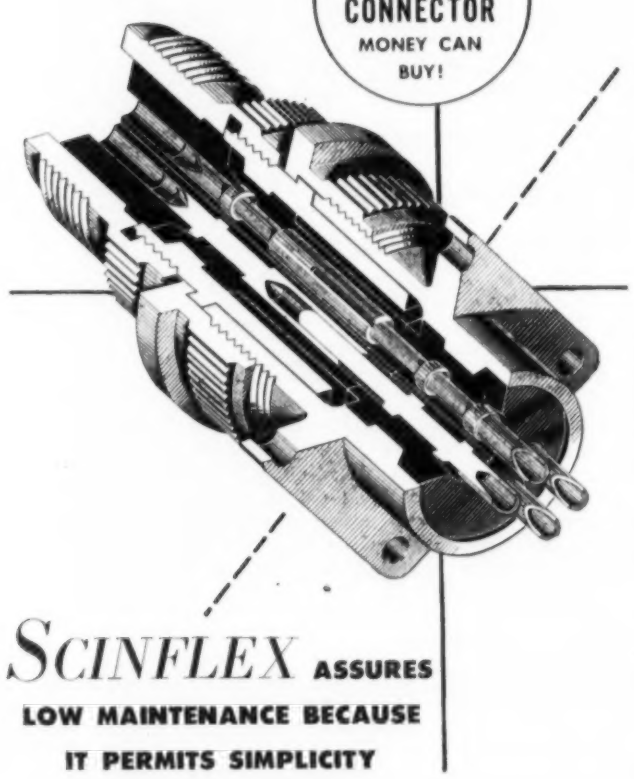
- **High capacity – both supply and relief**
- **Perfect balance against supply pressure changes**
- **Precise ratios**

Ratio No.	Loading Pressure	Output Pressure
1	Each 1 PSI	produces 1 PSI
1/2	" 1 "	" 1/2 "
1/3	" 1 "	" 1/3 "
2	" 1 "	" 2 "
3	" 1 "	" 3 "

KENDALL CONTROLS CORPORATION
144 MOODY STREET WALTHAM 54, MASS.

If you write maker identify as IEN - 12383

The Finest **ELECTRICAL CONNECTOR** MONEY CAN BUY!



SCINFLEX ASSURES LOW MAINTENANCE BECAUSE IT PERMITS SIMPLICITY

When operating conditions demand an electrical connector that will stand up under the most rugged requirements, always choose Bendix Scinflex Electrical Connectors. The insert material, an exclusive Bendix development, is one of our contributions to the electrical connector industry. The dielectric strength remains well above requirements within the temperature range of −67°F to +275°F. It makes possible a design increasing resistance to flashover and creepage. It withstands maximum conditions of current and voltage without breakdown. But that is only part of the story. It's also the reason why they are vibration-proof and moisture-proof. So, naturally, it pays to specify Bendix Scinflex Connectors and get this extra protection. Our sales department will be glad to furnish complete information on request.

• Moisture-Proof • Radio Quiet • Single Piece Inserts • Vibration-Proof • Light Weight • High Insulation Resistance • High Resistance to Fuels and Oils • Fungus Resistant • Easy Assembly and Disassembly • Fewer Parts than any other Connector • No additional solder required.

BENDIX SCINFLEX
ELECTRICAL CONNECTORS

Bendix

SCINTILLA MAGNETO DIVISION of Bendix AVIATION CORPORATION
SIDNEY, NEW YORK

Export Sales: Bendix International Division, 205 East 42nd St., New York 17, N. Y.
FACTORY BRANCH OFFICES: 117 E. Providencia Ave., Burbank, Calif. • Stephenson Bldg., 6560 Cass Ave., Detroit 2, Michigan • Brouwer Bldg., 176 W. Wisconsin Avenue, Milwaukee, Wisconsin • 582 Market Street, San Francisco 4, California.

If you write maker identify as IEN - 12385

CONNECTORS . . Miniature slip rings, commutators, brush holders to order

Source: JOE DAVIDSON & ASSOCIATES
P. O. Box 108, Dept. IEN, South Gate, Calif.

Injection molded

The company announces general availability for specified use of a new line of miniature precision slip rings, brush holders and commutators manufactured by Slip Ring Company of America. The one piece assemblies are available in diameters from 0.062 to 4 inches. They are microfinished and rhodium plated to protect against tarnish or corrosion. Each unit is comparator inspected prior to shipment.

If you write maker identify as IEN - 12386

LUBRICATING . . Colloidal graphite in butylene glycol for use on rubber

Source: ACHESON COLLOIDS CO.
2000 Washington Ave., Port Huron, Mich.

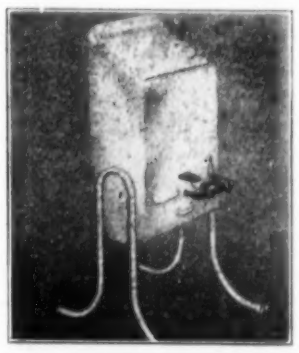
It does not attack rubber

Molded rubber bearings in reciprocating assemblies, tight fitting rubber bushings on parts such as shock absorbers, tie rods, steering assemblies, stabilizers, are typical points for application of the company's new Glydag-B lubricant. Graphite supplies residual lubrication after the liquid carrier has dried out or has been washed away. Repeat maintenance application will restore original free action to rubber parts.

If you write maker identify as IEN - 12387

INCINERATOR . . Gas fired unit holds a bushel of refuse on its grate

Source: REZNOR MFG. CO.
300 James St., Mercer, Pa.



Inspires tidiness

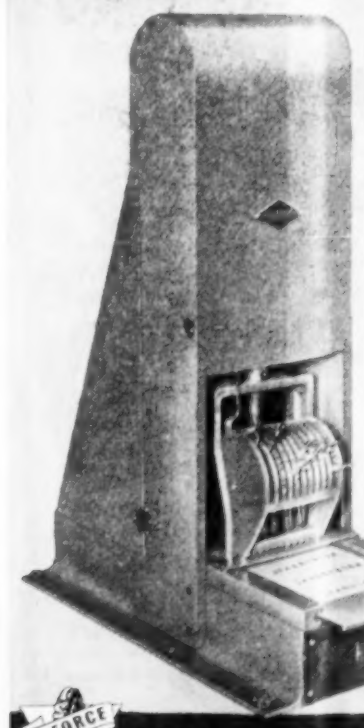
A small gas flame burns steadily beneath the grate in this new miniature incinerator. Refuse is thrown in through the hinged door at the top of the steel lined housing. It is dehydrated by the heat from the gas flame and by other material that has been dried. Then the refuse burns to leave a negligible amount of ash.

The housing measures 16½ by 10 by 28½ inches. It is insulated and lined on the inside with stainless steel. The unit is available with floor mounting legs as shown in the illustration or without the legs to mount on a wall.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12388

NEW! REVOLUTIONARY!



Cycle Numbering and Marking ROBOT

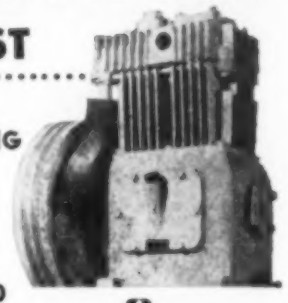
Automatic multiple marking unit . . . installs on production line. Prints in cycle: dates, code numbers, serial numbers, groups of numbers in combination . . . in various positions . . . on products, cans, containers, packages, cards, etc. *Write for specification sheet and catalog.*

Mounted on platform with automatic slide for multiple numbering of work cards.

WM. A. FORCE & COMPANY, INCORPORATED
216 NICHOLS AVENUE, BROOKLYN 8, N. Y.

If you write maker identify as IEN - 12389

Compressed Air
AT LOWER COST



FOR SPRAYING • CLEANING
CHUCKING • BLOWING
TEMPERATURE CONTROL
PNEUMATIC TOOLS
DIESEL STARTING
LIQUID TRANSFER • SAND BLASTING *and hundreds of other duties*

Quincy Compressors offer the lowest cost air supply consistent with efficient, dependable performance. All Quincy Compressors are modern in design, ruggedly built and compact. Sizes range from 1 to 90 in both air and water cooled models. Wide variety of mountings including portable models.

ONLY *Quincy* OFFERS ALL THESE FEATURES

Timken Taper Bearings • Cushioned Steel Valves • Semi-Steel Pistons • Lynite Connecting Rods • Balanced Crankshaft • Copper Finned Intercooler • Constant Level Oiling • Patented Loadless Starting.

CATALOG AND PRICES Contains illustrations, specifications and features. Write Quincy Compressor Co., Dept. H-33, Quincy, Illinois.

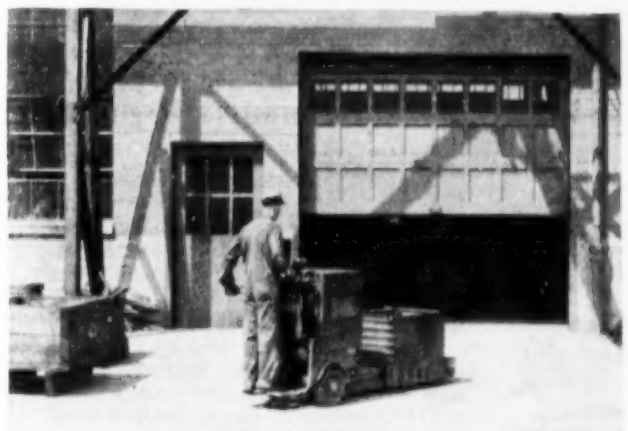
Quincy COMPRESSORS **QUINCY COMPRESSOR CO.**
QUINCY, ILLINOIS
Branch Offices: New York • Philadelphia • Detroit Chicago • St. Louis • Dallas • San Francisco

If you write maker identify as IEN - 12390

BARBER COLMAN

Barcol® OVERdoors

for rugged industrial use



Barcol OVERdoors operate smoothly and easily because twin torsion coil springs are engineered to balance the exact weight of the door, glass, paint, and every ounce of plated hardware. Add the patented Barber-Colman cam closing action, and your door is sure to be weather-tight yet easy working. To speed plant traffic and save heat, use Barcol electric operators with pull cords or convenient wall switches. Your Barcol distributor sells, installs, guarantees, and services. Look under "Doors" in phone book.

BARBER-COLMAN COMPANY, DEPT. V311, ROCKFORD, ILLINOIS

If you write maker identify as IEN - 12391

SHENANGO *Centrifugal* CASTINGS ... KEY TO SAVINGS

Bring down overhead the SHENANGO way!

Centrifugally cast Meehanite Metal cams for metal rendering presses. The hard, more evenly dispersed graphite flakes in these Shenango cast Meehanite Metal parts would stress concentrations and permit finer finishing.

Here are two reasons why Shenango parts will cut costs for you:

First, the high-strength, pressure-dense castings produced by Shenango's centrifugal process . . . castings free from sand inclusions, blowholes and other defects . . . are keeping work stoppage, lost production and premature part failure to a minimum for Shenango users everywhere.

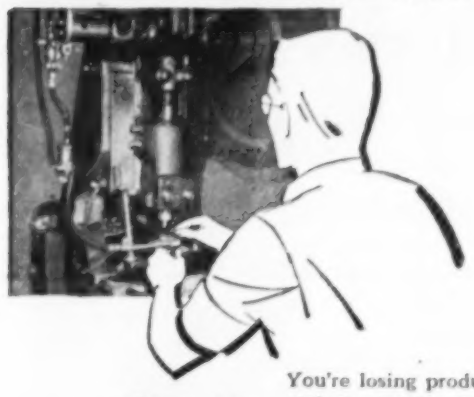
Secondly, modern facilities and skilled workmen at Shenango turn out precision-machined parts *exactly* to your specifications. A real saving in time and money over parts that *almost* fit perfectly.

Send for free bulletins. All sizes and types of symmetrical parts are produced by Shenango in rough, semi- or precision-machined finish. Bulletin No. 150 covers nonferrous metals; Bulletin No. 151 covers Meehanite Metal, Ni-Resist and special iron alloys. *Write to . . .*

SHENANGO-PENN MOLD COMPANY
Centrifugal Castings Division
Dover, Ohio
Executive Offices: Pittsburgh, Pa.

SHENANGO
ALL RED BRONZES • MANGANESE BRONZES • ALUMINUM BRONZES
MONEL METAL • NI-RESIST • MEEHANITE® METAL

If you write maker identify as IEN - 12392



Step Up Production and Safety, Too with Schrader Air Ejection

You're losing production when operators must manually unload work from your presses. Extra work takes time, and adds hazards to the job.

A Schrader Air Ejection Set will give your presses—and operators—a new lease on life. Fully automatic, these sets deliver enough air to eject the part, but no more. They are actuated by cams or trippers, and are delivered to you ready to install.

Various sets are available to handle any ejection problem.

Get full details on Schrader Ejection Sets. Write today for the Schrader catalog.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
458 Vanderbilt Ave., D-39, Brooklyn 38, N. Y.

If you write maker identify as IEN - 12393

SPEED REDUCTION IS OUR SPECIALTY

Abart

BUILDERS OF SPEED REDUCERS FOR ALL INDUSTRIAL PURPOSES

Years of specialized engineering design and experience are embodied in the thoroughly comprehensive line of spur, worm, and combination speed reducers offered by Abart. Whatever your particular application, there is an Abart Speed Reducer exactly suited to the job. Oil-tight and sealed against dust, they are compact, quiet, power conserving, and exceptionally durable. Horsepower ratings range from 1/50 to 168; ratios to 10,000 to 1.

***SEND FOR POCKET-SIZE CATALOG** containing complete data on ABART SPEED REDUCERS and GEARMOTORS*
SPUR GEAR DRIVES
WORM GEAR DRIVES
and COMBINATIONS

Abart GEAR & MACHINE CO.
4823 WEST 16th STREET • CHICAGO 50, ILLINOIS
Mfrs. of Gears, Speed Reducers and Gearmotors

If you write maker identify as IEN - 12394

use AVERY Kum-Kleen LABELS

- *REDUCE LABELING COSTS*
- *ELIMINATE WASTE MOTION*
- *SPEED ASSEMBLY OPERATIONS*

Because Avery labels are pressure sensitive, they're the fastest, easiest and most economical labels you can use...for nameplates and trademarks, for guarantees and instructions—for approval seals, diagrams and many, many other uses.

They can be supplied in any size, shape or color...on backing tape in roll or sheet form...to meet your own specific labeling requirements.

With Avery electric dispensers labeling is as much as 5 times faster than with ordinary methods!

You can save time and money by using these labels in YOUR business. Clip the coupon for FREE samples.

AVERY ADHESIVE LABEL CORPORATION
117 Liberty St., New York 6 — 608 S. Dearborn St., Chicago 5
1616 S. California Ave., Monrovia, Calif. — Offices in Other Principal Cities

☐ Send us case histories & free samples
☐ Tell us about your dispensers
☐ Have the Avery Label Man call

Name
Company
Address
Our business is:

If you write maker identify as IEN - 12395

TRUCK . . Dump box attachment for company's fork lift truck

Source: YALE & TOWNE MFG. CO.
11002 Roosevelt Blvd., Philadelphia 15, Pa.

Data on request

Two part box, made of steel with a hinged bottom and an inverted lift angle, applies on the company's fork lift truck to carry and dump loads of work. A filled box is picked up with the bottom in horizontal position on the truck forks and is carried to a new location where the work is to be dumped. At this point, a separate vertical cylinder, mounted on the fork carriage, is actuated by the operator to lift the rear end of the box. This causes the bottom to hinge open and act as a chute to discharge the work.

The box returns to closed position, after it has been emptied, by gravity action when pressure is released from the vertical cylinder. The lifting mechanism is adjustable and can be used with 11 and 15 cu. ft. boxes. Hooks are available for other boxes and are interchangeable with the standard lifting hook. The new attachment does not interfere with normal load carrying application of the truck.

If you write maker identify as IEN - 12396

GENERATOR . . Engine driven ac., 10 kw. for standby and utility duty

Source: PIONEER GEN-E-MOTOR CORP.
5831 W. Dickens Ave., Chicago 39, Ill.

For lights and power

New size, rating 10 kw., has been added to the company's line of belt connected engine driven generators previously described IEN-4605-53. The generator will produce 10 kw. at 208 volt 2-phase or 115-volt single phase. It rates 8 kw. at 208 volt single phase, if two circuits are used, or 6 kw. at 208-volt single-phase if one circuit is employed. It can be connected through a transfer switch to a standard circuit.

The engine is a 4-cylinder 4-cycle air cooled Wisconsin unit rating 23 hp. It is equipped with radio shielded ignition, a high tension magneto with an impulse coupling. The main bearings are tapered rollers. Lubrication is by a geared pump. Air intake is through an oil bath cleaner.

The assembly is in drip proof construction and is mounted on skids as shown in the illustration. List price is about $1,100. Weight is 711 pounds. The generator shaft rides on factory lubricated permanently sealed ball bearings.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12397

ONLY ACME OFFERS YOU 2 BUSHING STANDARDS

TOTALING
16,984 SIZES

Reduces "Specials"... Speeds Delivery... Cuts Costs

Only Acme offers two bushing standards giving you 9,870 EXTRA thin wall sizes...sizes now costing you premium prices elsewhere and delaying your production. SAVE *time* and *money*. Write for FREE catalog now.

215 N. LAFLIN ST. **ACME Industrial Company** CHICAGO 7, ILL.

MAKERS OF HARDENED AND GROUND PRECISION PARTS

If you write maker identify as IEN - 12398

Now...Spring Makers and Spring Users alike have a Uniform Method for Testing Springs!

THE TORRINGTON SPRING TESTER

Uses: for accurate inspection, in-use testing, designing springs for specific uses, and as a basis for statistical quality control.

Simple: can be used at operating levels by relatively inexperienced personnel. Portable!

Accurate: 2 models—the 3 pound model measures loads to the nearest 1/100 ounce, and the 16 pound model to the nearest 1/5 ounce; lengths and deflections to 1/1000 inch.

Fast: requires minimum time to adjust for accurate readings, or to reset for other springs.

Practical: measures under conditions approximating actual use, through interchangeable fittings.

High sensitivity: over a wide range, on both tension and compression types of springs.

For complete information please write:

The TORRINGTON MANUFACTURING COMPANY
TORRINGTON, CONNECTICUT

WORLD'S LARGEST BUILDERS OF SPRINGMAKING MACHINERY

If you write maker identify as IEN - 12399

all new! THROUGH AND THROUGH — NEW DESIGN

Stainless Steel Meter

ACCURATELY MEASURES LIQUIDS FOR FOODS, PHARMACEUTICALS, CHEMICALS AND CORROSIVE LIQUORS

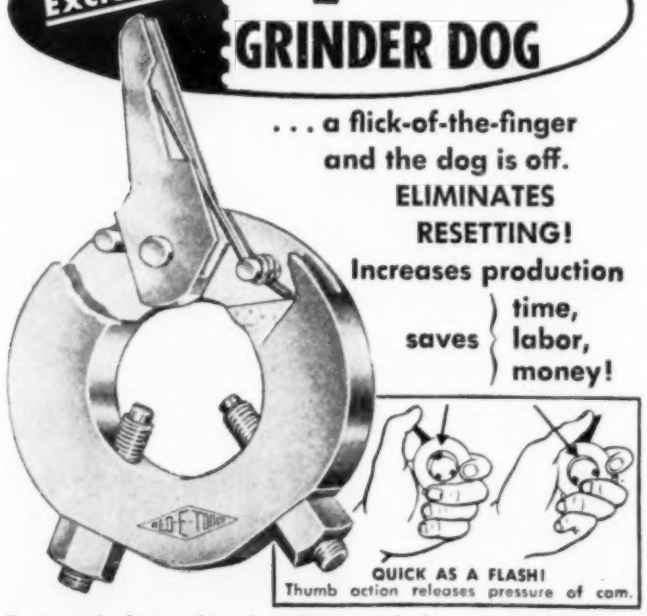
Rockwell Rotocycle Stainless Steel Industrial Meter, Type 2BC

Now you can have positive metered accounting for corrosive liquids that previously could not be handled by ordinary meters. Type 2BC Rockwell Rotocycles are made of stainless steel, inside and out. They are lasting, accurate, easy to clean. Install them with certainty for batch mixing formulas, for inventory control, for cost and tax record accounting. Quantity Control Registers and Remote Registration Systems are available. Described in bulletin OG-403. *Write Rockwell Mfg. Co. Dept. B-12, Pittsburgh 8, Pa.*

You Can RELY ON ROCKWELL INDUSTRIAL METERS

If you write maker identify as IEN - 12400

Exclusive RED-E CAM ACTION GRINDER DOG



. . . a flick-of-the-finger and the dog is off. ELIMINATES RESETTING! Increases production saves time, labor, money!

Don't settle for anything less! Enjoy quick change-overs and simple installation. Perfectly balanced, accurate and adjustable. RED-E CAM ACTION DOGS never mar the work . . . they *hold* fast. Available with brass cams and screws. Capacity 1/8" to 6". Send for the RED-E Grinder-Milling Dog Catalog. Your first step to Increased Grinding Production . . . Lower Costs!

GRINDER-MILLING DOG *Specialists since 1908*
RED-E-TOOLS READY TOOL COMPANY
544 Iranistan Ave. • Bridgeport 5, Conn.

If you write maker identify as **IEN - 12401**

The type Tapping Screw you require will vary with: 1. kind of material; 2. thickness of material; 3. the method used for making the hole.*

Lamson Tapping Screws are precision made for maximum holding even in thin material, fully hardened to permit the thread crests to form clean threads without stripping hole. Available in a wide range of head and point combinations. A "special" Tapping Screw to many . . . is a "stock" item at Lamson

**This information is available in tabular form for easy reference. Write for as many copies as you need.*

The LAMSON & SESSIONS CO.
1971 West 85th St. • Cleveland 2, Ohio
CLEVELAND AND KENT, OHIO • BIRMINGHAM • CHICAGO

If you write maker identify as **IEN - 12402**

NOW you can have longer-lasting direct prints that fairly sparkle with contrast

You get blacker-than-ever lines on whiter-than-ever backgrounds with DIRECTO, the new, improved Dietzgen semi-dry process that gives you ready-to-use direct positive prints in seconds. DIRECTO prints fight wear and tear, and even when oil-soaked, grime-smeared, sweat-stained they retain amazing legibility.

You are assured of uniformity because DIRECTO developing solution is chemically stable, always brings out strong black images, whether mixed fresh or old. And there's no washing, no lengthy drying, no negative needed. DIRECTO prints are made direct from your translucent original.

Compare this remarkable material with any other you have ever used. DIRECTO is available now with blue, pink, yellow and green backgrounds, as well as white, for convenient color coding. Send for samples.

EUGENE DIETZGEN CO. • Chicago • New York • San Francisco
New Orleans • Los Angeles • Pittsburgh • Washington
Philadelphia • Milwaukee • *Dealers in All Principal Cities*

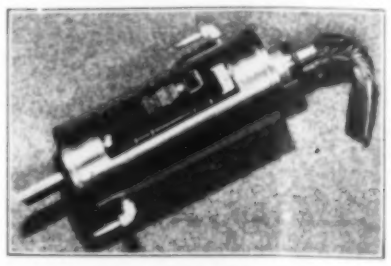
DIETZGEN
EVERYTHING FOR DRAFTING SURVEYING & PRINTMAKING

Free Samples!

If you write maker identify as **IEN - 12404**

ELECTRONIC TUBE . . Ignitron unit controls circuit in resistance welding

Source: GENERAL ELECTRIC CO.
1949 Electronics Park, Syracuse 1, N. Y.



Type GL-6346, 6347, 6348

New control for the water cooling, in this recently improved ignitron tube, employs two snap acting switches mounted on a constant length reference strip. One switch operates a solenoid valve in the water supply line to maintain the correct amount of cooling water for operation. The other switch is set to operate at a few degrees higher to cut off power in the event of over-heating or over-loading.

The new arrangement eliminates need for water flow valves, over-temperature relays and water pressure interlocks. It cuts the use of cooling water by as much as 95 per cent, compared to the previous design.

The new tube is available in three types, each basically a standard mercury pool stainless steel jacketed unit. They are equivalent to 300, 600 and 1,200-amp. magnetic contactors.

If you write maker identify as **IEN - 12405**

LUBRICATING . . Cutting oil diluent assists in machining to a fine finish

Source: TECT INC.
Erie & Cortlandt Sts., Dumont, N. J.

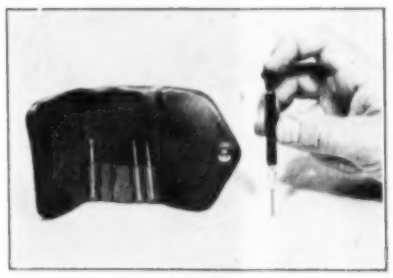
Sample and data to your request

Tersolv No. 427 is a new comparatively non-toxic solvent to use in place of carbon tetrachloride as a diluent for cutting oils. It is helpful in cutting fine threads and in machining operations where finish is an important factor. The liquid is non-flammable and evaporates at about the same rate as carbon tetrachloride.

If you write maker identify as **IEN - 12406**

SCREW DRIVING . . Miniature kit with handle and bits for instruments

Source: INSULINE CORPORATION
36-04 35th Ave., Long Island City 1, N. Y.



List is $1.15

Mini-Kit 989 is a new assembly of swivel top handle, or holder, and four miniature screw driver bits made of hardened steel. The bit blades measure 0.055 to 0.100 inch. The vinylite folding case measures 2 by 2⅜ in. when it is folded. Intended application is on fine instruments, electronic equipment, photographic apparatus, wherever there are very small screws.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 12407**

FOR BORING CAST IRON, NONFERROUS, AND THE HARDER TYPES OF STEELS AND MATERIALS

use BOKUM CARBIDE-TIPPED BORING TOOLS

Bokum carbide-tipped boring tools are designed on a mathematical formula which guarantees the correct cutting and clearance angles throughout entire life of the carbide tip.

Clearances remain uniform throughout repeated resharpening.

The carbide inserts are brazed in special alloy steel heat-treated bodies having the same expansion and contraction qualities as the carbide tip. This prevents tip from cracking when it heats up.

A wide range of sizes is available for boring holes from 1/16" diameter up.

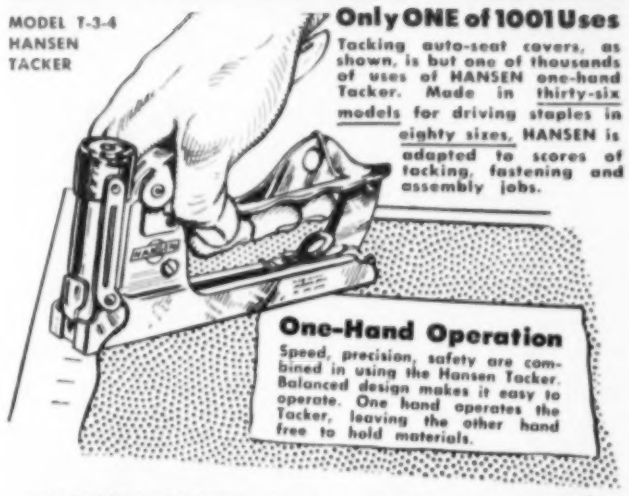
Send for Cat. 398-6 for complete information. And for supplement No. 1 to 398-6 for information about tools for jig borers put up in 16 sets of varied assortments. Tools for lathes in 8 sets of varied assortments.

BOKUM TOOL CO.
SINGLE POINT BORING TOOLS—INTERNAL THREADING, BOTTOMING AND FACING TOOLS—CARBIDE TIPPED TOOLS
DEPT. N • 14775 WILDEMERE AVE. • DETROIT 21, MICH.

If you write maker identify as **IEN - 12408**

YOU CAN DO IT BETTER with HANSEN ONE-HAND TACKER

MODEL T-3-4 HANSEN TACKER



Only ONE of 1001 Uses

Tacking auto-seat covers, as shown, is but one of thousands of uses of HANSEN one-hand Tacker. Made in thirty-six models for driving staples in eighty sizes, HANSEN is adapted to scores of tacking, fastening and assembly jobs.

One-Hand Operation

Speed, precision, safety are combined in using the Hansen Tacker. Balanced design makes it easy to operate. One hand operates the Tacker, leaving the other hand free to hold materials.

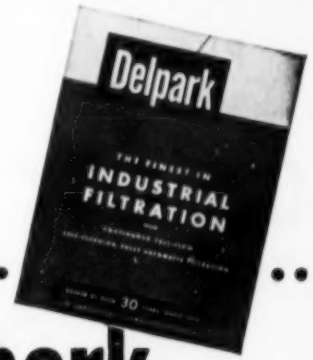
HANSEN SAVES time — steps — materials

TIME—self-contained, ready for instant, continual use. **STEPS** — saves back-tracking for tacks. **MATERIALS** — precision driving, insuring neater, better work.

A.L. HANSEN MFG. CO. Request Booklet . . . today
5051 RAVENSWOOD AVENUE • CHICAGO 40, ILLINOIS

If you write maker identify as **IEN - 12409**

free Bulletin



ON Delpark

FULL FLOW, SELF CLEANING
INDUSTRIAL FILTRATION

Here's literature that can help you solve filtration problems in your plant.

The famous Delpark Industrial Filter is designed for the maximum of filtration with the minimum of maintenance.

Full flow, self cleaning, continuous, fully automatic, Delpark Industrial Filter applications include the filtration of coolants, quenching oils, paint spray-booth water, air-conditioning wash water, and numerous other applications.

Write today for this free booklet and acquaint yourself with the facts on the finest in Industrial Filtration.

Backed by More Than 30 Years in Industrial Filtration

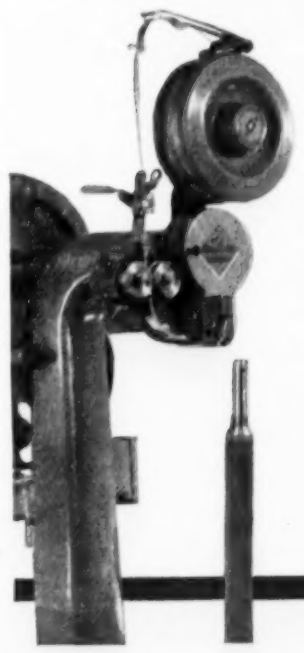
INDUSTRIAL FILTRATION COMPANY
95 INDUSTRIAL AVENUE LEBANON, INDIANA

If you write maker identify as **IEN - 12410**

Add an Acme Steel 25-pound coil holder

to your present wire stitching equipment

Stitch 2½ times longer without stopping



The rugged new Acme Steel 25-pound coil holder means less down time on your wire stitching operations, both because it holds 2½ times as much wire as the conventional 10-pound coil holder, and because it's easier and faster to load. Features are tangle-free wire feed and positive shoe-type brake. For details, write Acme Steel Products Division, Dept. IEN-113, Acme Steel Company, 2840 Archer Avenue, Chicago 8, Illinois.

STITCH IT... STRAP IT... SHIP IT... SAFELY!

ACME STEEL

If you write maker identify as IEN - 12411

HEAVY-DUTY Foot Switch

Available with or without pedal guard, in several types

STREAMLINED to match modern machine styling • Heavy cast case, gasketed for oil-tight applications • Compact design—hugs floor—won't tip • Wide pedal, operable from three directions but protected against accidental contact or falling objects • Adjustable stroke. Short motion and slight angle eliminate ankle fatigue • Self-contained contact mechanisms easily wired or replaced • Snap action contacts, rated 600 volts pilot duty, A.C. or D.C.

Write for Bulletin 9002 AW. Square D Company, 4041 North Richards Street, Milwaukee 12, Wisconsin.

Ask Your Electrical Distributor for Square D Products

SQUARE D COMPANY

If you write maker identify as IEN - 12412

PRETTY SPRY FOR AN OLD GUY

M.E. 1251.2

20 years makes any electrical connector a venerable old-timer and the JOY plug pictured above has faithfully served its owner (*name on request*) since '31. *Your portable electric connectors will also last longer and require less maintenance attention if they're JOY built.*

TODAY'S DESIGNS

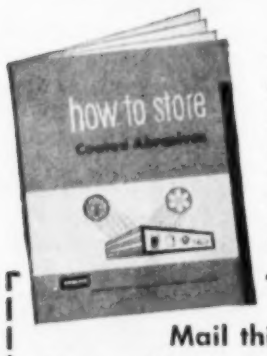
Thousands of styles and shapes ranging from "Cartridge-size" to mammoth round units for heavy industrial use have been developed. NO question about it, the JOY electrical connector line deserves your earnest consideration. Ask for your free copy of bulletin MC108, now.

JOY MANUFACTURING COMPANY
HENRY W. OLIVER BUILDING, PITTSBURGH 22, PENNSYLVANIA
IN CANADA: JOY MANUFACTURING COMPANY (CANADA) LTD., GALT, ONTARIO

If you write maker identify as IEN - 12413

Storing Abrasives?

Armour's helpful booklet shows the economical, time-saving way!



This booklet from Armour, maker of *precision* coated abrasives, tells you how to stop losses—in time and money—from improperly stored coated abrasives. Clogging, filling, cracking, loss of grains—these are some of the things proper storage can prevent. Send for your free copy of "How to Store Coated Abrasives."

Mail this coupon today

Please send booklet "How to Store Coated Abrasives."

Name .....

Firm .....

Address .....

City ..... *Zone* ..... *State* .....

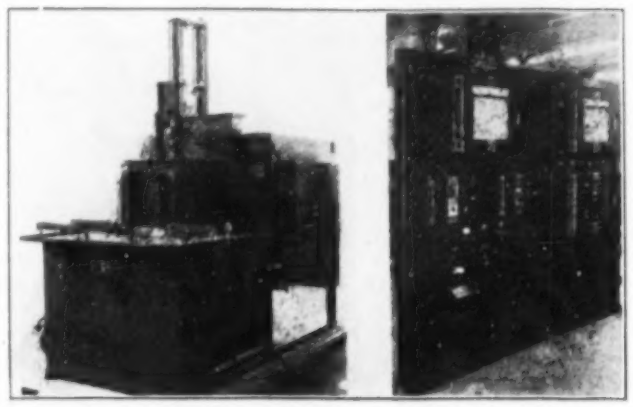
ARMOUR *Coated Abrasives*

Armour and Company • North Benton Road • Alliance, Ohio

If you write maker identify as IEN - 12414

HEAT TREATING . . Convection furnace and quench with protected atmosphere

Source: LEEDS & NORTHRUP CO.
4934 Stenton Ave., Philadelphia 44, Pa.



Maintains precise control

Automatic control is provided for temperature and also for the protective atmosphere during heating, quenching and work movement in this new Homocarb furnace. The assembly consists of a horizontal Homocarb furnace, Microcarb atmosphere control and the company's temperature control. The furnace entrance and work space above the quench tank are protected by an atmosphere filled vestibule.

A motor driven fan circulates heat and atmosphere gas through the work load in the heating chamber. A motor driven pump circulates quench oil downward through the work when it is positioned in the quench tank. The work is not exposed to air from the time it enters the furnace until it emerges from the tank.

The atmosphere control employs a Carbohm detecting element located in the work chamber and connected to a carbon recorder and Microcarb control. The recorder draws a record of the per cent carbon. The control balances the carbon against the control dial setting to regulate flow of the Homocarb fluid to the chamber. An Electromax "on-off" controller regulates temperature of the quench oil by actuating a heat exchanger or immersion heater. Temperature range in the furnace is 1,500 to 1,750 deg. F. Carbon is 0.15 to 1.15 per cent.

If you write maker identify as IEN - 12415

RETRIEVING . . Hand operated reel for electric conductor to a machine

Source: INDUSTRIAL ELECTRICAL WORKS
1505 Chicago St., Room B-92, Omaha 2, Nebr.

User winds it

New design of the Port-O-Reel hand operated reel for electric extension cord will take various sizes to No. 12 three-conductor cord. The reel is equipped with a bracket to assemble on a portable machine such as a vacuum cleaner, floor sander, grinder, portable bench saw, lawnmower, conveyor, sprayer. The reel alone weighs about 5 pounds. The bracket clamps in place as shown in the illustration.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

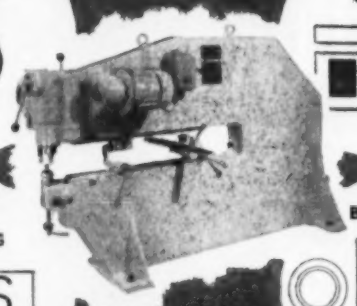
If you write maker identify as IEN - 12416

PULLMAX Does all These Operations

SAVE TIME, LABOR & EXPENSIVE DIES

CIRCLE CUTTING

STRAIGHT CUTTING



SLOT CUTTING

BEADING

CHOICE OF 9 SIZES TO FIT YOUR REQUIREMENTS

FOLDING

From 16 ga. up to 11/32" capacity

LOUVERS

MODERNIZE YOUR SHOP WITH PULLMAX
WRITE FOR LITERATURE AND PRICES

BACKED BY NATIONAL SALES AND SERVICE

AMERICAN PULLMAX COMPANY, INC.
2459 NORTH SHEFFIELD AVENUE · CHICAGO 14, ILLINOIS

If you write maker identify as IEN - 12417

the Switch that Has What It Takes-
for SMALL MOTORS 1 h.p. or less

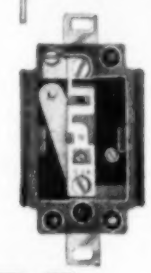
SHAWMUT TYPE B
MOTOR OVERLOAD SWITCH

(Rating: 1 h.p. max. @ 115v or 230v.
Non-inductive loads 15A-130v or 10A-230v)

SHAWMUT TYPE B has an *exclusive*, easy-operating, unique, trip-free mechanism. The thousands of SHAWMUT TYPE B's now in use prove that it "has what it takes!"

THREE TYPE B TYPES

1. Single Pole, solid neutral — for 2-wire, single conductor grounded circuits.
2. Single Pole — for 2-wire, single phase, one conductor, grounded circuits.
3. Double Pole — for 2-wire, single phase systems with conductors ungrounded, or 3-wire, one phase, grounded-neutral.



Heavy steel enclosure boxes. Easy to install, simple to maintain. Box or open mounting.

POSITIVE OVERLOAD PROTECTION

Silver molybdenum contacts. Interchangeable heaters. 24 different Ampere ratings legibly stamped for identification. Calibrated for each rating and die-cut for uniformity. Quality construction throughout.

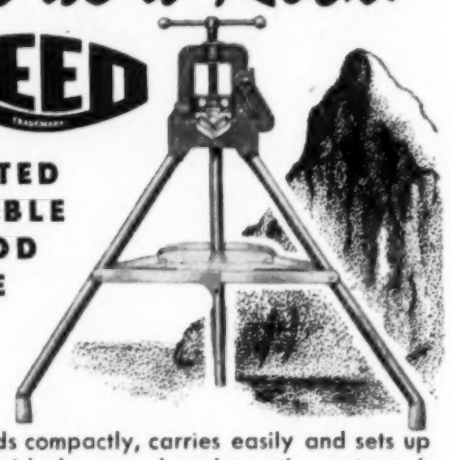
SEND FOR BULLETIN #512 AT ONCE

THE CHASE-SHAWMUT CO.
386 MERRIMAC STREET · NEWBURYPORT, MASSACHUSETTS

If you write maker identify as IEN - 12418

Solid as a Rock!

the REED



PATENTED PORTABLE TRIPOD VISE

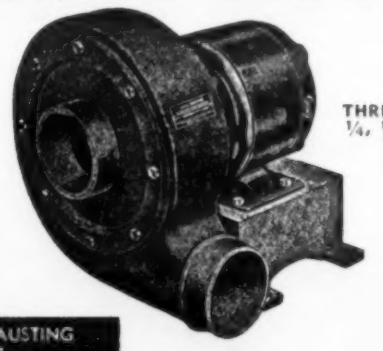
One unit. Folds compactly, carries easily and sets up instantly. A quick downward push on the patented, large-surface tray locks the stand solidly so that all cutting or threading effort goes into the work. Legs cannot buckle under any working conditions. They line up vertically with the face of the well-known REED long-jaw vise. Ask your jobber or write . . .

REED TRADEMARK

MANUFACTURING COMPANY
ERIE, PENNSYLVANIA

If you write maker identify as IEN - 12419

THE Sutton MOTOR DRIVEN PRESSURE BLOWER



THREE SIZES ¼, ½, 1 H.P.

USE FOR
• EXHAUSTING DUST SMOKE FUMES VAPOR
• FORGE BLASTING

CONVEYING COTTON, WOOL, SHAVINGS
COOLING AND DRYING

MADE OF LIGHTWEIGHT CAST ALUMINUM ALLOY, CENTRIFUGAL TYPE. Direction of discharge may be changed to any of eight 4 degree positions. Straight wall construction reduces windage and increases efficiency. Standard 3450 r.p.m. direct-connected 60-cycle ball bearing motor, open or totally enclosed types. Capacities, 100 to 800 cu. ft. per min. at static pressures from ½" to 6". WRITE FOR LITERATURE AND PRICES.

Sutton Manufacturing Corp.
126 W. WILSON AVENUE · NORFOLK, VIRGINIA

If you write maker identify as IEN - 12420

END SASH LIGHT REPLACEMENT!

Shatterproof—Crackproof Panes of Flat RESOLITE Last Indefinitely

You can install window and door lights that won't shatter when hit by flying objects; that won't crack when subjected to severe vibration, concussion or intermittant radiant heat. Translucent Resolite — a glass-fiber reinforced polyester resin—is also unaffected by weather extremes of heat, cold or moisture, and by usual industrial fumes.

That's why more and more modern plants are using Resolite for all glazing, including sidewall and skylighting.

Resolite panes are installed like glass. They are factory cut to size, but can easily be cut on the job. Resolite's uniform diffusion of daylight cuts glare, reduces eyestrain. For complete information and name of nearest distributor, write:

RESOLITE Corp., Box 514, Zelienople, Pa.

If you write maker identify as IEN - 12421

THERE'S A STURDY

BURKE

FOR EVERY PURPOSE

Thousands of efficient, low cost Burke Bench Millers are proving their superiority in Tool, Development and School Shops and a wide variety of mass production operations.

Send for complete data on models attachments, accessories and suggestions for putting Burke's to work for your profit.

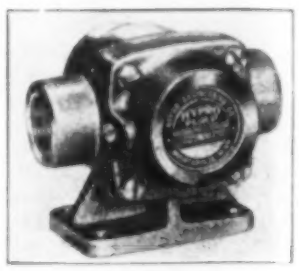
THE U. S.-BURKE MACHINE TOOL DIV.

Brotherton Road 5 Cincinnati 27, Ohio

If you write maker identify as IEN - 12423

PUMP . . Rotary design carries Hy-Car rollers in radial slots

Source: HYPRO ENGINEERING INC.
402-6 Washington Ave. N., Minneapolis 1, Minn.



To circulate water

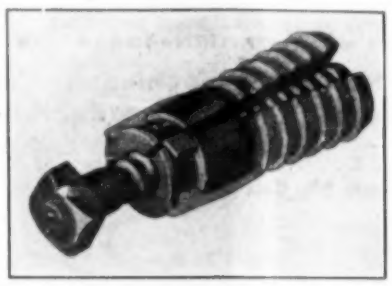
Bronze housing and impeller, stainless steel shaft, ball bearings and Hy-Car rubber rollers make up this new Model 4300 rotary pump. It represents further development of the Series 4000 pump in which nylon rollers are carried in radial slots, previously described IEN-2669-53. The ball bearings are factory lubricated and permanently sealed.

The pump rates 7 gpm. at 50-lb. pressure and 1,750 rpm. It is suited for pressure to 75 lb. and for speed to 1,800 rpm. It is equipped with ¾-in. pipe threaded ports. Weight is 4½ pounds.

If you write maker identify as IEN - 12424

FASTENING . . Lag screw shield to provide a secure anchor in masonry

Source: RAWLPLUG COMPANY
271 Church St., Dept. IEN, New York 13, N. Y.



Makes line complete

Screw sizes range from ¼ to ¾ in. in this new lag screw shield. It is made of corrosion proof alloy in a casting operation. Circumferential fins anchor in a hole. Longitudinal fins prevent turning when the lag screw is tightened.

If you write maker identify as IEN - 12425

CLEANING . . Washing machine to dip or flood work with cold solvent

Source: GRAYMILLS CORPORATION
3709 N. Lincoln Ave., Chicago 13, Ill.

For utility use

Model H-95 is a new tank type washing machine equipped with a three level shelf, a pump to circulate solvent through nozzles in the tank or through either of two nozzle equipped hose lines. Dimensions are 5 by 3 by 3 inches. A hinged lid and safety release complete the assembly. The tank holds from 100 to 175 gal. of cleaning solvent. It is particularly suited to flush, spray or soak metal parts, dies, large bearings and assemblies.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

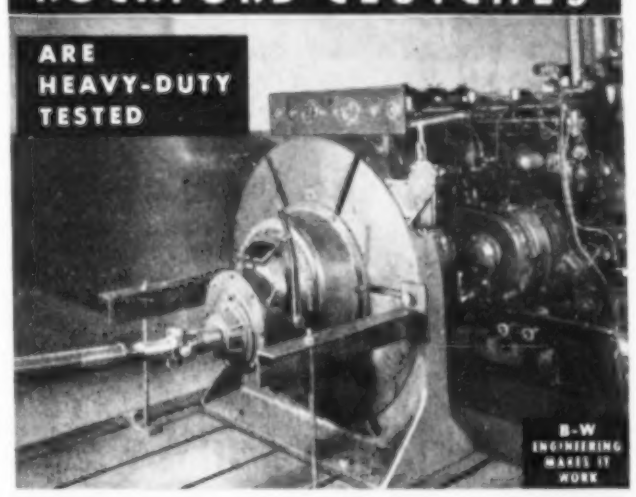
If you write maker identify as IEN - 12426

HEAT THAT MOVES AROUND

If you write maker identify as IEN - 12427

ROCKFORD CLUTCHES

ARE HEAVY-DUTY TESTED



Large ROCKFORD clutches, Power Take-Offs and Speed Reducers are tested for torque, engaging pressure, release, temperature, gear strength, bearing endurance and clutch facing wear on this 400 H.P. diesel powered, electric dynamometer. Let ROCKFORD engineers utilize this machine to improve your heavy-duty power transmission controls.

B-W PRODUCTION MAKES IT AVAILABLE

ROCKFORD CLUTCH DIVISION BORG-WARNER
303 Catherine Street, Rockford, Illinois, U. S. A.

If you write maker identify as IEN - 12428

HERE'S WHY

PRESTOWELD
Trade-Mark

BLOWPIPES *COST SO LITTLE TO USE AND MAINTAIN*

SELF-SEATING VALVES
Reseat scored valves when turned tight.

RUGGED HANDLE ASSEMBLY
Built for long, trouble-free service.

SLIP-FIT "O" RINGS
Perfect gas seals every time.

MIXER IN EACH HEAD
Resists backfires, eliminates burnouts.

SWAGED, PURE COPPER TIPS
Heads snap in handle. No wrench needed.

The PREST-O-WELD W-122 blowpipe (illustrated) is available with 13 standard welding heads and 3 multiflame heating heads, all of the snap-in type. Ask your LINDE jobber for a demonstration or write for further information. LINDE AIR PRODUCTS COMPANY, a Division of Union Carbide and Carbon Corporation, 30 E. 42nd St., New York 17, N. Y.

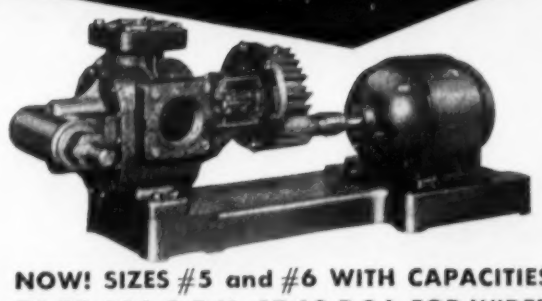
get it from your LINDE jobber

The terms "Linde" and "Prest-O-Weld" are registered trade-marks of Union Carbide and Carbon Corporation.

If you write maker identify as IEN - 12429

Announcing...

2 NEW MODELS IN ROPER 3600 SERIES



NOW! SIZES #5 and #6 WITH CAPACITIES 70 TO 226 G.P.M. AT 60 P.S.I. FOR WIDER RANGE OF INDUSTRIAL APPLICATIONS

FEATURES

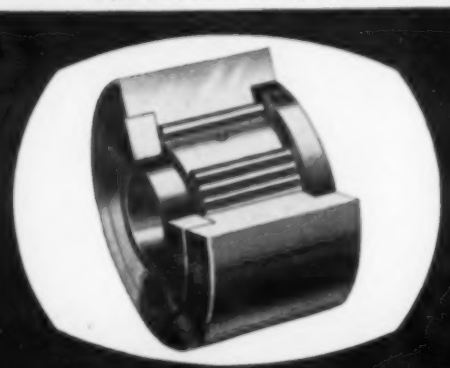
- Compact . . . requires minimum installation space
- Totally-enclosed gear reduction running in oil
- Anti-friction bearings throughout gear reduction
- 3 gear reductions for each size are interchangeable
- Operates indoors or outdoors — no pump house needed
- Sturdy bedplate provides rigid mounting for pump and motor
- Unusually smooth and quiet operation

Send for Catalog

GEO. D. ROPER CORPORATION
211 BLACKHAWK PARK AVE.
ROCKFORD, ILLINOIS

ROPER *Rotary Pumps*

If you write maker identify as IEN - 12430



versatility
for cam follower mounting provided with
MULTIROL® CYR bearings

With this series it is possible to utilize the full advantages of Multirol Cam Follower bearings in a yoke mounting. In the CYR bearing an inner race replaces the stud to further increase the adaptability of precision cam followers in automatic machinery requiring cam action or guide and support rollers.

Send for McGill Catalog No. 52

McGILL® precision bearings

McGILL MANUFACTURING CO., INC. 100 N. Lafayette St. Valparaiso, Indiana

If you write maker identify as IEN - 12431

HANSEN

TWO-WAY SHUT-OFF COUPLING
Shuts Off Both Sides of Line

Series HK

Both ends of line are positively sealed when you disconnect a Hansen Two-Way Shut-Off Coupling. No tools required. Identical valves in Socket and Plug permit free flow of gas or liquid when Coupling is connected — practically eliminate spilling of liquid or escape of gas when disconnecting Coupling. Does not depend upon line pressure to seal. Sizes 1/8" to 1". Female pipe thread connections.

To connect, merely pull back sleeve, push Plug into Socket. To disconnect, pull back sleeve. This unlocks Coupling — immediately and automatically seals both ends of line.

Also Straight-Through and One-Way Shut-Off Couplings. Write for catalog.

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 11, OHIO

If you write maker identify as IEN - 12432

ECONOMIZE with Morton . . . FIXTURE CLAMP and COMPONENTS

- IMMEDIATE DELIVERY
- LARGEST ASSORTMENT OF SIZES AND TYPES IN THE INDUSTRY.
- ASSURED QUALITY and SERVICE.

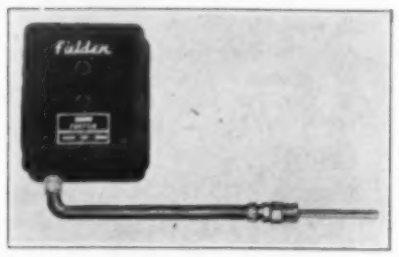
WRITE TODAY
For our Catalog showing our complete line and including full size templates of each Fixture Clamp and Component . . . Save Tool and Designing Costs.

MORTON MACHINE WORKS
2425 Wolcott St., Detroit 20, Mich.

If you write maker identify as IEN - 12433

CONTROL . . Electronic equipment to regulate level of fluid materials

Source: FIELDEN INSTRUMENT DIVISION
2918-22 No. 4th St., Philadelphia 33, Pa.



All parts are static

Level control is regulated by this new Tektor equipment for single liquids, interface between two liquids, and for dry granular or powdered free flowing materials. Control can be maintained within 1/16 in. of a predetermined point. Electrodes, to act as the actuating member, are available for pressure to 2,000 lb. and temperature to 1,500 deg. F. Two Models, No. 101 and No. 102, are fail-safe at low level and high level respectively. Operation is on 110-volt 60-cycle ac.

Operation is based on the principle that capacitance in a two-plate condenser will vary with the approach or retreat of the material under control. The condenser forms one leg of a bridge circuit containing a balancing capacitor. The bridge connects through an amplifier to the control circuit and to signal lamps that indicate closed circuit and approach of the level limit. The electrode is a rigid rod or disc. It can be sheathed in corrosion resistant material.

If you write maker identify as IEN - 12434

LAPPING . . Motor driven machine for tool rooms, small lot production

Source: SPITFIRE TOOL CO.
2928-32 N. Pulaski Rd., Chicago 41, Ill.

Operates wet or dry

Model 24 is a new design in the company's line of rotary table lapping machines, previously described IEN-12332-46. It is designed particularly to finish gages, sliding and rotating parts, air and liquid tight seals and valves. Finishes as fine as 2 micro-inches can be produced. The rotating table can be supplied in plain or spiral grooved design. The two can be interchanged in the field if desired.

Table diameter is 24 inches. Drive is by a 1/2-hp. rubber mounted motor operating at 1,750 rpm. Plate speed can be set at any of four steps to a maximum of 150 rpm. Rotating support for the plate is by a hardened and ground precision eccentric bushing. The machine measures 25 by 25 by 38 inches. Weight is 515 pounds.

If you write maker identify as IEN - 12435

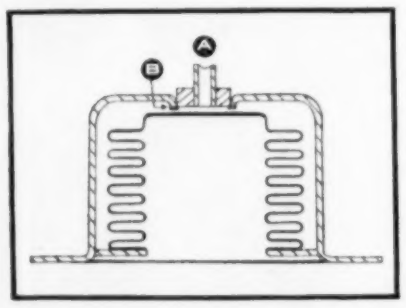
Colmonoy is a hard facing alloy originally developed to surface parts subject to wear. It is available now in the form of cones to apply as tips on machine centers. The centers can be new or old. The tip costs but a fraction of the price of a complete new center. It is silver soldered in place. Ask Wall-Colmonoy Corp., 19343-47 John R St., Detroit 3, Mich.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12436

A PAID NEWS ADVERTISEMENT BY CLIFFORD MFG. CO.

TEMPERATURE and PRESSURE CONTROL Bellows cup assemblies ideal for many applications.



Clifford Bellows Cup Assemblies offer the following advantages over regular bellows assemblies: greater protection for bellows; reduction of spring rate, in most cases, for the entire bellows system; bellows can operate at higher rating when pressure is externally applied; less tendency of bellows to buckle; easier provision for extension and compression stops to limit bellows travel.

The diagram shows the Clifford Model A, Plain Cup Assembly. Pressure applied through opening in cup (A) compresses bellows. At release of pressure, bellows returns to rest against stop (B). Besides this simplest, most basic type there are: Model B, Extension-Compression Stop Assembly; Model C, Spring Loaded; and Model D, Adjustable Spring Loaded. Five standard sizes accommodate bellows up to 3" OD. Four types of end fittings available.

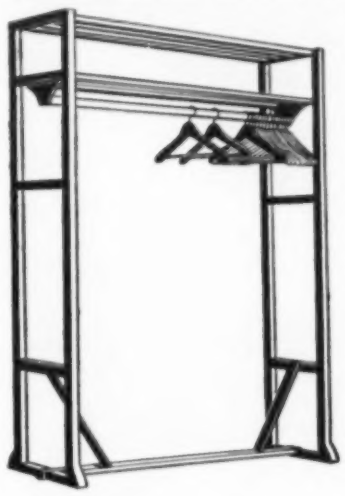
Clifford is glad to answer your questions or provide "bellows-engineering" help.

CLIFFORD MANUFACTURING COMPANY,
146 Grove St., Waltham 54, Mass.
Division of Standard-Thomson Corporation

If you write maker identify as IEN - 12437

Checkerette

Quick "knock-down" wardrobe rack answers almost any "wraps" problem, because it can be set up anywhere in a few minutes without nuts, bolts or tools . . . can be disassembled and stored in small space when not in use. It is ideal for installation near point of work, occupies only 1' x 4' floorspace; is ideal for company cafeterias, offices, laboratories and meeting rooms.



It will hold wraps by day and shop coats at night and keep both aired and dry.

Modern efficient designs, welded steel construction, rigid in use (all members held under tension).

Write for Circular CT 05

VOGEL-PETERSON CO.
1121 West 37th St. • Chicago 9, Ill.

If you write maker identify as IEN - 12438

MOTO-TRUC Service-Ability

GOOD truck maintenance begins right in your own *plant*. The quick service features of MOTO-TRUC mean less down time . . . Less cost to you for repairs.

Get the complete facts on the truck that offers the utmost in trouble-free operation . . . and remember . . . THERE'S A MOTO-TRUC FOR EVERY PURPOSE. Send for Bulletin No. 53.

Representatives in Principal Cities

The MOTO-TRUC Co.

1987 E. 59th STREET • CLEVELAND 3, OHIO

PALLET . . . PLATFORM . . . HI-LIFT TRUCKS

LARGEST EXCLUSIVE MANUFACTURERS OF "WALKIES"

If you write maker identify as IEN - 12440

3 NEW ITEMS!

1 Rawl Lag Screw Shields
Rustproof . . . precision-cast. Ideal for all masonry fastening, especially where "problem masonry" is concerned. Special design assures tremendous holding power.

2 Rawl Spring Wing Toggle-Bolts
Unsurpassed for anchoring in hollow walls, sheet metal, etc. Rustproof...assure permanent security for fastening or suspending countless utility items.

3 Rawl Handyman Kit
Perfect answer for 1001 anchoring jobs. Kit contains twenty #8 x 1" Rawlplugs; assorted screws, eyes, hooks; a 3-point Rawl drill; full installation instructions.

Complete Rawl line meets every anchoring need...positively...at lower installed cost. Order from your dealer.

The RAWLPLUG CO., Inc.
271 Church St., New York 13, N. Y.

If you write maker identify as IEN - 12441

New OHMITE POWR-RIB RESISTORS

Here is a new resistor which provides *dependable* operation for high-current applications.

Ohmite Powr-Rib edge-wound type resistors are wound with a heavy ribbon of resistance alloy on a ceramic core. This ribbon is rated at 375°C (707°F) temperature rise. All other metal parts are specially plated to prevent oxidation at high operating temperatures, and to insure good electrical contact. The ceramic core is divided into five sections to provide flexibility and resistance to shock. Available in full-rated capacities from 18.0 to 108 amperes; in resistance values from 0.100 to 2.85 ohms.

Write for BULLETIN No. 141

OHMITE MANUFACTURING CO.
3619 W. Howard Street • Skokie, Ill.
(Suburb of Chicago)

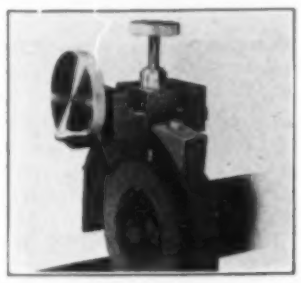
Be Right with **OHMITE®**

RHEOSTATS • RESISTORS • TAP SWITCHES

If you write maker identify as IEN - 12443

GRINDING . . Dresser attachment to keep square face on grinding wheel

Source: KUMA TOOL CO.
8747-51 S. State St., Chicago 19, Ill.



Clamps in position

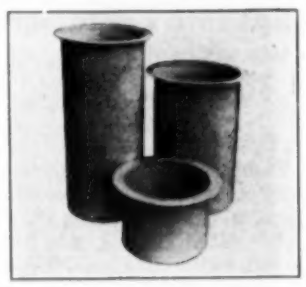
New attachment mounts on the wheel guard of a grinding machine for surface or external grinding. It carries a diamond holder in a slide for vertical adjustment and horizontal movement across the top of the grinding wheel. The wheel can be dressed without disturbing a work setup. The attachment stands in the clear while regular grinding proceeds.

Capacity is to 1½ in. in wheel width and to 1½ in. in vertical adjustment or to 3 in. in wheel diameter. One revolution of the dial makes 0.05 in. of adjustment. The diamond rotates, as it is fed down, to distribute the wear. The attachment lists at $130 with two holding clamps. A ¼-carat mounted diamond adds $15.75.

If you write maker identify as IEN - 12444

HANDLING . . Plastic container made by fabricating Fiberglas sheets

Source: SCHORI PROCESS DIVISION
8-13 43rd Road, Long Island City 1, N. Y.



No molds required

Iolyte trade names the Fiberglas reinforced laminated plastic sheet from which this new container is fabricated. Capacities range from 5 to 125 gal. with diameter at 9 to 28 in. and height from 12 to 48 inches. The plastic material is resistant to chemical attack. It will not break or crack. It has tensile strength comparable to steel, pound per pound, and it weighs about one-fifth as much.

If you write maker identify as IEN - 12445

DRILLING . . Lever operated stand for company's ¼ in. Model 107 drill

Source: PORTER-CABLE MACHINE CO.
29 Exchange St., Syracuse 8, N. Y.

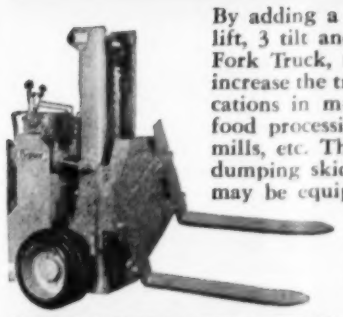
For bench use

Base plate, support column, lever operated bracket and backup spring make up the assembly of this new Model-5009 drill stand. It weighs 6 lb. and is designed to mount on a bench. Overall height is 21 inches. Maximum distance from the nose of the drill chuck to the base is 7 inches. Throat dimension is about 5 inches. The company can supply the stand alone or a complete assembly with the ¼-in. drill.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12446

BAKER 360° REVOLVING HEAD
—greatly increases FORK TRUCK utility



By adding a fourth motion (1 travel, 2 lift, 3 tilt and 4 ROTATION) to a Baker Fork Truck, this attachment can greatly increase the truck's utility on many applications in metal-working, chemical or food processing plants, foundries, paper mills, etc. The most common use is for dumping skid boxes—but rotating heads may be equipped with devices such as clamps for handling drums, paper rolls and other cylindrical objects. Operation is hydraulic, with a single control lever starting, stopping, selecting direction and speed of rotation.

A large electrical manufacturer saves $10,000 per year on scrap disposal operations with this Baker Revolving Head.

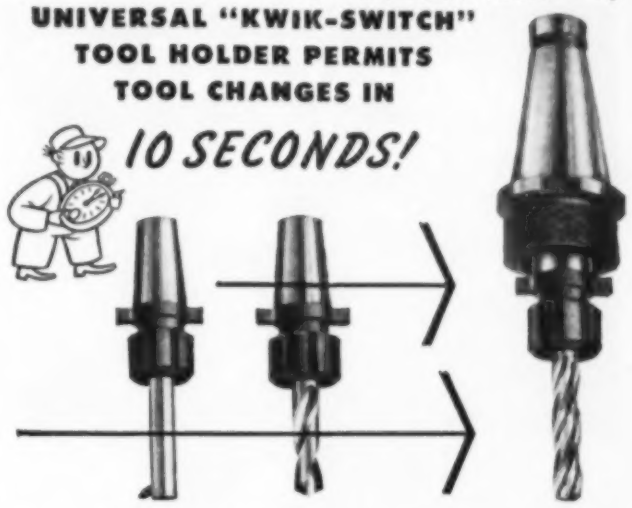
Write for Bulletin 1350-7

THE BAKER-RAULANG COMPANY
1226 WEST 80th STREET, CLEVELAND, OHIO

Baker® INDUSTRIAL TRUCKS

If you write maker identify as IEN - 12447

UNIVERSAL "KWIK-SWITCH" TOOL HOLDER PERMITS TOOL CHANGES IN *10 SECONDS!*



Universal "Kwik-Switch" Tool Holders permit rapid tool changes for operations such as drilling, reaming, and boring on mills, radial drills, while maintaining accuracy and rigidity. Each tool is inserted in its Adapter Chuck and set to proper length and tightened. The Adapter Chuck is then easily locked or unlocked by hand in the Master Chuck by less than a quarter turn. Made of hardened and ground steel, and precision manufactured throughout. Available in straight and taper shanks to fit all machine tools. For complete information, write to the office nearest you — Universal Engineering Sales Co., 1060 Broad St., Newark 2, N. J.; 5035 Sixth Ave., Kenosha, Wis. — or our home office.

UNIVERSAL ENGINEERING COMPANY
FRANKENMUTH 6, MICHIGAN 177-A

If you write maker identify as IEN - 12448

IF YOU WORK WITH PLATE *YOU NEED A STEELWELD PRESS*

If you work with metal in any thickness from 12 gauge to one inch most likely a Steelweld Press would prove helpful and profitable to you.

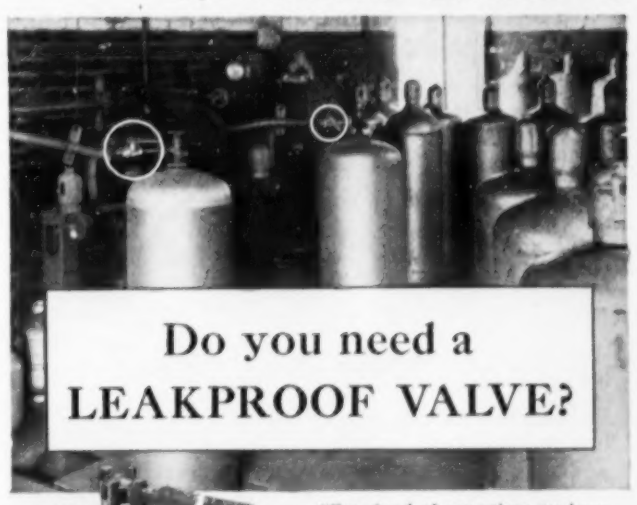
Steelwelds are versatile tools that do bending, forming, drawing, punching, etc. quickly with simple, easily set dies.

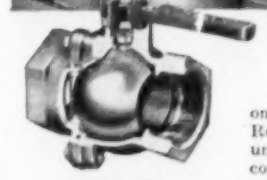
Send for free copy of catalog No. 2010.

THE CLEVELAND CRANE & ENGINEERING CO.
4238 East 281st St., Wickliffe, Ohio

STEELWELD PRESSES

If you write maker identify as IEN - 12449





Patented

"Far ahead of any others we have used," says maintenance engineer of this propane plant.

Leakproof in a propane plant — *leakproof* on LP gas trucks — *leakproof* in a tannery — Rockwood Ball Valves are designed to operate under the roughest and most grueling of conditions. What are *your* conditions?

Remember, they're leakproof for a longer time, too — pay for themselves over and over during years of rugged service.

Other features — full, round flow; quick opening and closing; extra wear resistance. Tested and listed by Underwriters' Laboratories Inc. Write for complete details. It may pay you big dividends.

ROCKWOOD SPRINKLER COMPANY
40 Harlow St., Worcester 5, Mass.

ROCKWOOD *FULL-FLOW* BALL VALVES
THE FLOW IS AS ROUND AS THE PIPE ITSELF

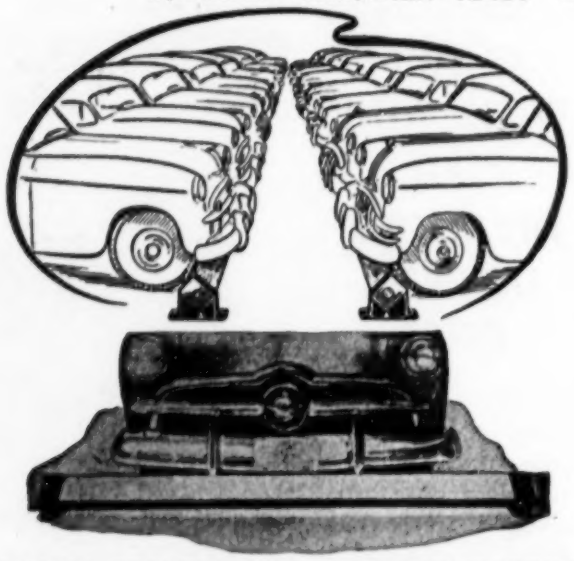
If you write maker identify as IEN - 12450

Specify **T-J** **FOR MORE WORK BETWEEN GRINDS**

In die and forge shops everywhere . . . T-J Die Sinking Milling Cutters are today's top favorites . . . because they're "tops" for cutting tough die steels! T-J Cutters hold a sharp edge longer on job after job . . . less breakage! Made from an extremely high grade steel . . . properly machined . . . scientifically heat-treated and accurately ground. Wide range of styles and sizes. Send for new catalog 150. The Tomkins-Johnson Co., Jackson, Mich.

FOR TOUGH JOBS SPECIFY T-J
TOMKINS-JOHNSON

If you write maker identify as IEN - 12451



SALIENT FEATURES OF HAR-BAR BARRIERS

1. High enough to stop your car.
2. Low enough to clear your bumper guards.
3. Barrier is above ground — no drainage problem.
4. Barrier is above ground — no rotting of wood.
5. Automatically spaces your cars.
6. Follows contour of your ground.
7. Easily installed — just line up and drive the anchor pins.
8. Easily moved — just pull the anchor pins. 100% reusable.
9. Easy to clean under.
10. Easy to maintain.
11. Installed on any kind of surface — black top, cement, macadam, gravel or cinders.
12. It really dresses up your parking lot.
13. You always stop against your tire — no shock.
14. Castings are non-rusting aluminum alloy.

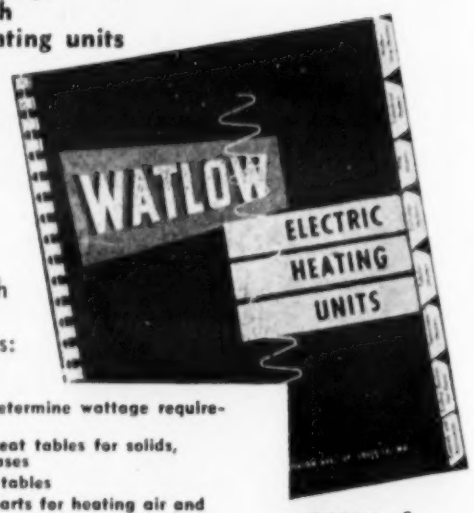
Send us a plot plan of your parking lot—we do the engineering free.

HARRIS-BARRIER, INC. 5407 N. PENNSYLVANIA STREET INDIANAPOLIS 5 • INDIANA

If you write maker identify as IEN - 12452

This FREE BOOK will show you

dozens of ways to save with electric heating units



Contains such valuable information as:

- How to determine wattage requirements
- Specific heat tables for solids, liquids, gases
- Heat loss tables
- Energy charts for heating air and water

PLUS how to select and apply Watlow's complete line of Strip, Cylindrical, Rine, Cartridge, Tubular and Immersion Heaters to meet your particular needs.

SEND for Your Copy Today!

WATLOW Since 1922—Designers and Manufacturers of Electric Heating Units
ELECTRIC MFG. CO.
1370 FERGUSON AVE.
SAINT LOUIS 14, MO.

If you write maker identify as IEN - 12453

TRUCK . . Motor driven fork lift rates 1 ton load, for congested areas

Source: ELWELL PARKER ELECTRIC CO.
4060 St. Clair Ave., Cleveland 3, Ohio

Bulletin B-478

Wheelbase measuring 43½ in. combines with 360-deg. steering and truck width of 33 in. to permit operation of this new Cargo-Scout fork truck in narrow aisles and congested areas. It will handle loads into and out of trucks and boxcars. It is suited particularly for work requiring the operator to get on and off the truck frequently. Load capacity is 1 ton with load length at 30 inches.

Hydraulic pressure is employed in the fork lift action in connection with a single cylinder and a pair of roller chains. The hydraulic pump is motor driven and equipped with an unloader that acts when travel limits are reached. The pump also supplies pressure to two tilt cylinders for movement 10 deg. to the rear and 5 deg. to the front. Maximum lift is 119 inches. The uprights measure 68 in. in height in lowered position. Overall length, with 30-in. forks, is about 95 inches.

If you write maker identify as IEN - 12454

PACKAGING . . Filling machine delivers semi-liquids into containers

Source: FILLER MACHINE CO.
53 Philmont Club Station, Philmont, Pa.

Variable speed drive

Fluids such as food products, cosmetics, dairy products, chemicals, paints, can be filled, in measured amount, into containers with this new semi-automatic Model-B filling machine. From 15 to 55 containers can be filled per min., depending upon the product and the container size.

The material is carried in a 25-gal. stainless steel hopper. It is fed by a 3-way valve and adjustable piston from the hopper into the containers. Length of the piston stroke determines the amount fed on each operating cycle. Overall dimensions are 35 by 30 by 58 inches. Weight is 475 pounds.

The standard machine lists at $675. A separate motor driven agitator for the hopper adds $200. A foot operated clutch also can be specified. All contact parts are stainless steel or Monel.

If you write maker identify as IEN - 12455

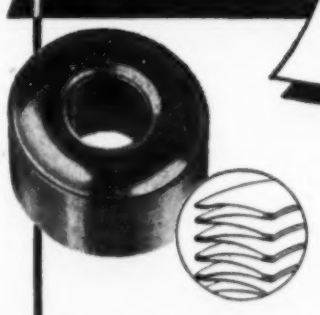
Clark Door Co., 519 Hunterdon St., Newark 8, N. J., makes power operated doors, folding, horizontal sliding, vertical lift. It has added a new safety device for instant reversal of the closing movement if the door meets the slightest obstruction. The device is actuated by a strip of hollow tube along the closing edge. Pressure on this tube results immediately in electric reverse actuation.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12456

Can You Use
BELLMETS?*

*Metallic Diaphragm BELLOWS with Specific Mechanical, Electrical and Thermal Properties



- Convolutions electrically insulated from each other
- Contour construction to resist pressures exceeding 500 PSI
- Materials heat resistant to 500° F.

Bellmets represent a unique development in welded diaphragm bellows. All welds either on the inside or outside diameter (depending on whether operating pressure is to be internal or external) are replaced with a dielectric bonding material. The bonds are strong, slightly resilient, highly resistant to heat, and insulate each end of the bellows from the other.

Bellmets have already solved problems in engine noise attenuation, pressure switch simplification, circuit control at high pressures. Wherever heat, pressure, or electrical characteristics present a problem, job-engineered Bellmets—in a wide range of sizes and specifications—may prove the ideal solution.

WRITE TODAY for complete information, outlining your specific problem or interest.

BREEZE CORPORATIONS, INC. ANOTHER BREEZE PRODUCT
41 South Sixth St., Newark, N. J.

If you write maker identify as IEN - 12457

SAFETYMIX
EXTRA SHOWER SAFETY . . . at no extra cost

PROTECTS AGAINST SUDDEN SCALDS
. . . Safetymix, world's leading pressure-actuated non-scald shower valve gives safety in the shower. Safetymix automatically shuts down flow if either hot or cold water fails.

HOLDS SHOWER TEMPERATURE CONSTANT
. . . Even with excessive pressure fluctuations up to 85%, Safetymix still maintains constant discharge temperature.

LIFETIME SHOWER VALVE
. . . The most rugged shower control valve made. Only Safetymix has the patented Flow Control Spindle with but *one* moving part to control *all* valve functions. Built to last a lifetime.

GET FREEDOM FROM COSTLY MAINTENANCE
. . . Safetymix is designed with self-cleaning action to prevent clogging and save water. All parts accessible from the front. As easy to fix as a faucet.

100,000 Installations Can't Be Wrong. Used by U. S. Army, Navy, Merchant Marine, colleges, industrial plants, hotels, clubs, hospitals, apartments and homes.

Send for bulletin and prices.

SAFETYMIX — MADE BY THE MAKERS OF THE NEW SYMMONS TEMPERING-CONTROLLER

Symmons ENGINEERING COMPANY
791 TREMONT ST., BOSTON 18, MASS.

If you write maker identify as IEN - 12458

WHICH STEAM TRAP
For Your Steam Lines?

Standard Inverted Bucket Trap . . .	Air Eliminator Steam Trap . . .	Series B Steam Traps . . .
NORMAL AIR ELIMINATION	FAST AIR ELIMINATION	EXTREMELY FAST AIR ELIMINATION

PRESSURES . . . to 700° P.S.I.
TEMPERATURES . . . to 800° F.
CAPACITIES . . . to 48,600 lbs. per hr.
SIZES . . . ½" to 2"
MATERIALS . . . Cast semi-steel and steel

SUPER-SILVERTOP steam traps installed straight in line or as an elbow serviced without disturbing a single fitting

FREE Write for 36-page manual "Solving Steam Trap Problems" showing how to select traps for any application. Address the V. D. Anderson Company, 1931 West 96th Street, Cleveland 2, Ohio.

If you write maker identify as IEN - 12459

NO MORE SLIPS!

NOW make metal, concrete, and wood floors, staircases, areas around machinery and loading platforms SLIP-PROOF — WET OR DRY.

R-MIR-DEK NON-SLIP COATING is the only lightweight safety floor coating that is Fire retardant, Anti-corrosive, Easily applied, and Oil, Grease, Alkali, and Acid-resistant. Compounded of durable phenolic resins and polymerized oils with everlasting aluminum oxide granules added.

FREE 2-color R-Mir-Dek brochure. Write to Department IEN-11

MIRACLE ADHESIVES CORP.
214 E. 53rd STREET, NEW YORK 22, N. Y.

If you write maker identify as IEN - 12460

WICKWIRE ROPE SLINGS

in braided and single part construction

Braided slings made by Wickwire give you these advantages:

- Extreme flexibility
- Non-kinking properties
- Better conformation to irregular surfaces
- More even load distribution
- Will not take a permanent set

Write or call our nearest sales office for full details.

THE COLORADO FUEL AND IRON CORP.—Abilene (Tex.) • Denver
Houston • Odessa (Tex.) • Phoenix • Salt Lake City • Tulsa
PACIFIC COAST DIVISION—Los Angeles • Oakland
Portland • San Francisco • Seattle • Spokane
WICKWIRE SPENCER STEEL DIVISION—Boston • Buffalo • Chattanooga
Chicago • Detroit • Emlenton (Pa.) • Philadelphia • New Orleans • New York

WICKWIRE ROPE
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION

If you write maker identify as IEN - 12461

FAIRBANKS-MORSE

has 'em!

Fairbanks-Morse has an accurate, easy-to-read, easy-to-operate Dial Scale to exactly suit your particular requirements—whatever your weighing operation.

You have fewer moving parts in a Fairbanks-Morse Dial Scale . . . you have less chance of a breakdown . . . less chance for inaccuracy.

And Printomatic Recorders will *automatically* record your weights and other pertinent data with a Fairbanks-Morse Dial Scale. See your local Fairbanks-Morse Scale Specialist . . . or write Fairbanks, Morse & Co., Chicago 5, Illinois.

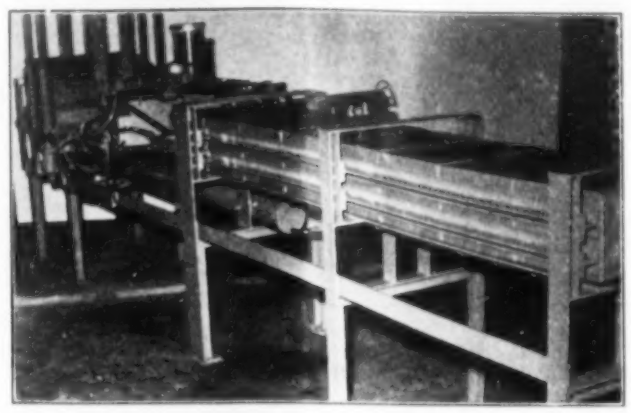
FAIRBANKS-MORSE
a name worth remembering when you want the best

SCALES • PUMPS • DIESEL LOCOMOTIVES AND ENGINES
ELECTRICAL MACHINERY • RAIL CARS • HOME WATER
SERVICE EQUIPMENT • FARM MACHINERY • MAGNETOS

If you write maker identify as IEN - 12463

PACKAGING . . Automatic machine opens and forms container, fills, seals

Source: SCHROEDER MACHINES CORP.
P. O. Box 1123-A, Syracuse 1, N. Y.



Shipped in three sections

Quadnumatic is a new automatic air operated machine to package cans, slabs of wax, catalogs, cigarette cartons, as representative items. It takes a flat container from one end of the assembly, opens and forms it and presents its open end to an "accumulator" table. The product to be packaged is gathered on this table and, when it is full, the product is pushed into the container.

The filled container is then moved through folding and sealing positions and out at the delivery end. The machine measures 16 ft. in. length by 30 in. in width, the latter dimension depending on the size of the container. The accumulator table stands at right angles to the length of the machine. It measures 15 in. in width and 40 in. in length.

If you write maker identify as IEN - 12464

HEATING . . Oil fired space unit has stainless steel combustion chamber

Source: DRAVO CORPORATION
Liberty & Fifth Aves., Pittsburgh 22, Pa.

No refractories

The burner is this new Paraflo heater fires into a combustion chamber that is made of stainless steel and is strap supported in the housing to permit expansion and contraction with changing temperature. Products of combustion heat the chamber walls and pass through an economizer to the outlet connection. Two sizes rate 200,000 and 250,000 btu. per hour. Tests indicate efficiency of about 80 per cent. The burner will handle No. 2 or lighter fuel oil.

Air is drawn in at floor level by a motor driven blower. It is directed around the combustion chamber and through passages in the economizer. It picks up heat and is delivered through two adjustable outlets that can be rotated through 360 degrees. Velocity is sufficient to warm an area 180 ft. in diameter. Blower and burner are interlocked for safe operation.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12465

If you write maker identify as IEN - 12466

Get Wide Selection!

Whether you need open, drawout, or stationary enclosed units . . . with remote or local switching . . . there's an Allis-Chalmers low voltage air breaker for the job. These breakers are insensitive to shock and vibration under normal conditions and can be applied in any location.

Ratings are available to meet all low voltage applications. Interrupting capacities 25,000 and 50,000 amperes; continuous currents 35 to 1600 amperes; maximum voltage 600 volts, 25 to 60 cycles.

Get complete specifications from an Allis-Chalmers district office, or write Allis-Chalmers, Milwaukee 1, Wis.

A-4121

ALLIS-CHALMERS

If you write maker identify as IEN - 12467

UP THE LADDER...and DOWN

1,000-LB HOIST WEIGHS ONLY 30 LB

It's as easy as that to carry and hang

KELLER

Air Hoist

One man handles it easily... makes replacements quickly . . . avoids "down time" that might keep a whole department idle.

VARIABLE SPEED with finger-tip control—spots loads accurately.

CAN'T BURN OUT from stalling. Not affected by dust and fumes. Maintenance costs are negligible!

Send for **illustrated descriptive bulletin and detailed information**

Keller Tool Company
GRAND HAVEN, MICHIGAN

If you write maker identify as IEN - 12468

'Tugit' is the only lever-operated lifting and pulling tool built like a hoist. It gives you efficient, spur-gear action; has a powerful, automatic load brake for fast, smooth, safety-first operation. It's light, portable. Fits into any tool box. A compact hoist — functions perfectly at any angle in close quarters. Maintenance men, contractors, railroad repair men, utility crews, metal fabricators use 'Tugit' to speed work. Ask your "Shaw-Box" Distributor to demonstrate a 'Tugit' or write us for a copy of Bulletin No. 388.

'TUGIT'® HOISTS

MANNING, MAXWELL & MOORE, INC.
MUSKEGON, MICHIGAN

Builders of "Shaw-Box" and 'Load Lifter' Cranes, 'Budgit' and 'Load Lifter' Hoists and other lifting specialties. Makers of 'Ashcroft' Gauges, 'Hancock' Valves, 'Consolidated' Safety and Relief Valves, 'American' Industrial Instruments, and Aircraft Products.

If you write maker identify as IEN - 12469

S.S.WHITE Elastoplastic
PLUGS and CAPS

Slipped into or over the ends of plain tubing, these plugs and caps protect the ends and keep out dirt and moisture.

Made of flexible Vinylite plastic, they are resistant to most oils, offer high electrical insulation, and are easily applied and stay put. For details

WRITE FOR BULLETIN P-5107

THE S.S.White PLASTICS DIVISION
DENTAL MFG. CO. Dept. NP, 10 East 40th St. NEW YORK 16, N. Y.

WESTERN DISTRICT OFFICE: Times Building, Long Beach, California

If you write maker identify as IEN - 12470

CUTTERS
that give you
more clean cuts
per dollar

Every cutter in the broad Brown & Sharpe line is carefully designed and manufactured to lower your *real* cutter cost . . . give you more smooth, clean cuts per dollar invested. Complete selection of types and sizes to improve milling efficiency on any job. Write for illustrated Catalog. Brown & Sharpe Mfg. Co., Providence 1, R. I., U. S. A.

BUY THROUGH
YOUR LOCAL DISTRIBUTOR

BS Brown & Sharpe

If you write maker identify as IEN - 12471

here's large size in
socket screws

Diameters up to 1½"— and larger,
in full range of lengths

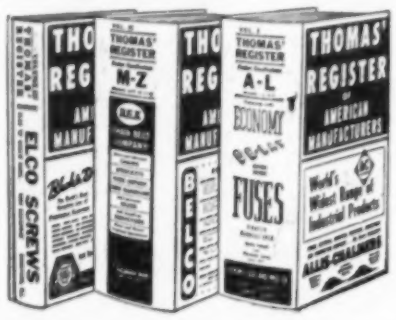
It's good to know where you can find these unusual sizes in plain head Socket Screws, accurately made of alloy steel by modern methods—efficiently heat treated—and shipped with *threads protected*. Write for prices and delivery information.

Also a wide range of sizes in Hexagon, Flat and Fillister Head Cap Screws, Square Head Set Screws, and Milled Studs.

CLEVELAND Top Quality FASTENERS
The Cleveland Cap Screw Company
2917 East 79th Street Cleveland 4, Ohio
Warehouses: Chicago, Philadelphia, New York, Providence
ASK YOUR JOBBER FOR CLEVELAND FASTENERS

For Your Special Information

ALL MAKERS ARE LISTED IEN S-34



Industrial Equipment News keeps you up to date on new industrial developments month by month. It also provides information, through its advertising, on a great many products for which you have constant or recurring need. You can make this source reference complete, to include all of the things manufactured in these United States, if you add to it a copy of Thomas' Register.

This annual Register contains not only all of the manufacturers with whom you are accustomed to do business but also all the other makers of any product you can possibly think of. There is no attempt to curtail the listings to hold down on the publication size. Every effort is made, actually, to include everyone, big or small, who can provide you with equipment, tools, materials, supplies, services. Just be certain to place your subscription in time to assure yourself a reservation before the 1954 print is exhausted.

EXPOSITION IEN S-35

November 30 to December 5 are the dates for the Chemical Industries Exposition. The Commercial Museum and Convention Hall in Philadelphia is the place. The show is about 40 per cent larger than the industry's previous 23rd exposition. Nearly 500 exhibitors have engaged space. It is expected that all of the available area will be filled by convention time.

NEW PRODUCTS IEN S-36

Personnel turnover among executives and department heads is shown to be a main contributing difficulty in successful development and marketing of new products, both consumer and industrial. This is what Hilton and Riggio Inc., New York advertising agency discovered in a survey it made among some 1,100 manufacturers. Individuals involved in planning, financing, manufacture, marketing, design, packaging and selling a new product often move to positions of greater responsibility or shift to other firms and so prevent accumulation of "know-how" for subsequent new product development. The study points up the advisability of engaging independent specialists for such projects.

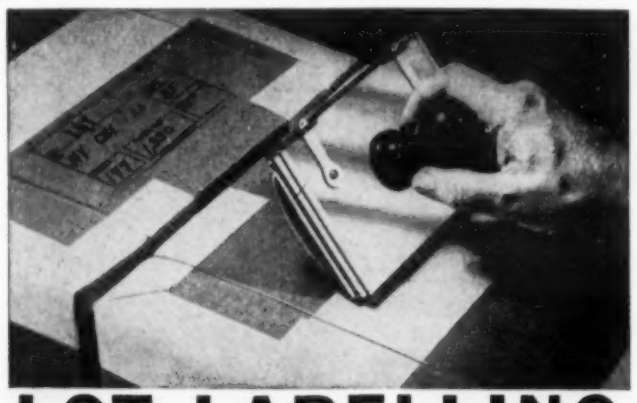
MANAGEMENT IEN S-37

Careership designates a new plan that has been put into action by Square D Company, 6058-62 Rivard St., Detroit 11, Michigan. It offers young men who have won scholarship assistance from the company summertime jobs in the engineering and production departments prior to graduation. At present seventeen young men are operating under the plan. Twelve of them have been at work in the Square-D plants and are now back in college.

Best U. S. investment:

United States Savings Bonds

If you write maker identify as IEN - 12472



LOT LABELLING
for Storage or Shipment Made Faster . . More Accurate . . Cheaper!

Faster than pasted labels . . faster than stencil and brush. Print direct . . 1000 or more clear, sharp copies without re-inking. Prints practically anywhere . . postcards, tags, labels, boxes, cartons, packages, menus, forms, letters . . paper, cloth, wood. Just type, write, trace or draw on inexpensive stencil . . snap it on duplicator . . and print—like using a rubberstamp. New pre-die-cut "FORM-CUT" stencil prints shipping form and identification data in one operation.

THE ORIGINAL HAND STAMP STENCIL DUPLICATOR

IT PRINTS ANYWHERE

Portable . . non-mechanical . . of non-corrosive metal . . replaceable ink pads. 8 complete outfits: $9.50 to $99.50, including supplies (f.o.b. factory). Write for literature or see your office or shipping room supply dealer.

OVER 30 YEARS MULTISTAMP STENCIL DUPLICATOR

If you write maker identify as IEN - 12473

You can provide easy mobility to a variety of industrial products with
IRONBOUND ALL-PURPOSE HANDLING UNITS . . .

POPULAR IRONBOUND
FLO TRUK

● An easy to handle ruggedly constructed unit for carrying bulky and heavy loads at lowest cost. Seven standard sizes with one or two push handles makes it easy to select the proper truck for your requirements. Ask an Ironbound engineer for suggestions.

The HANDY for furniture and similar items.
The HAULER for cases, crates, tote boxes, etc.
The HUSKY for general use throughout the plant.

THE IRONBOUND "SAFETY-SKID" WITH ROUND CORNERS
Ironbound construction assures long hard use with complete safety to product and operator. Still the time proven method for handling of materials efficiently and economically.

Ironbound

IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
50 HOFFMAN PLACE • HILLSIDE, N. J.

MANUFACTURERS OF QUALITY BUILT SKIDS, SEMI-LIVE SKIDS, FLOOR TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS

If you write maker identify as IEN - 12474

Write for 32 Page Catalog

- Pump Controls
- Duplex Pump Alternators
- High and Low Level Cutoffs
- High and Low Level Alarms
- Multi-Level Signals
- Liquid Metering
- Special Controls and Panels

Listed by Underwriters Laboratories

CHARLES F. WARRICK CO.
1965 W. Eleven Mile Road
Berkley, Mich.

Warrick
FLOATLESS
LIQUID LEVEL CONTROLS
ELECTRODE TYPE

If you write maker identify as IEN - 12475

We make satisfied customers

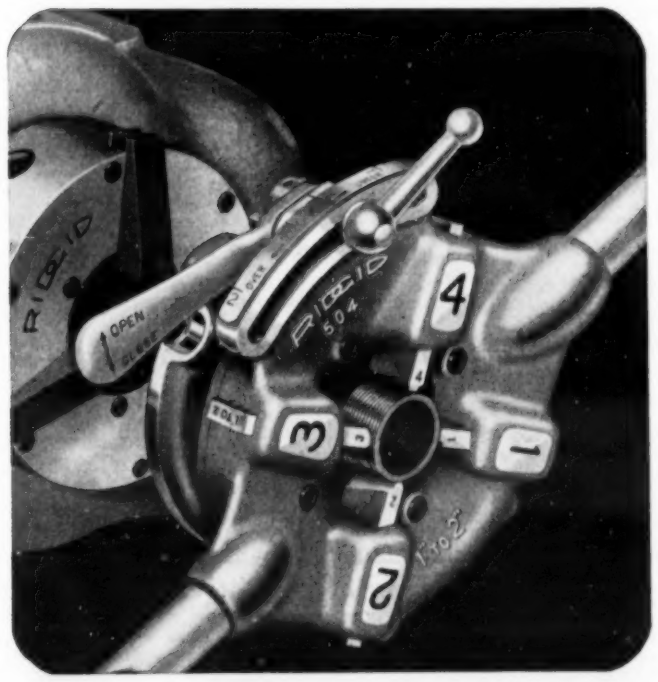
Package your products in Lermer Plastic durable, handsome containers. They are shatterproof, 75% lighter than glass, available clear or opaque in many colors, can be printed or decorated and are available with metal or plastic closures. Write for complete catalog information and samples. If possible, send along products for particular suggestions.

LERMER PLASTICS, INC.
Pioneers and Pacesetters in Plastic Packaging
518 South Ave., Garwood, New Jersey

If you write maker identify as IEN - 12476

If you write maker identify as IEN - 12477

NEW RIGID Quick-Opening "504" PIPE THREADER for Power Drive use



Threads 1" to 2" pipe with 1 set of dies

You can't beat this new "504" for fast smooth threading with power drive! Changes instantly from size to size regardless of position of quick-opening lever . . . Release ball handle, move indicator line to 1", 1¼", 1½" or 2" on size bar, tighten—it's ready to thread! Quick-opening handle retracts dies instantly without stopping power drive—no slow backing off. 4-jaw workholder centers pipe for accurate threading. No lead screw to jam. Easy-to-read size bar. Adjustable to over and under size threads. See it . . . try it . . . buy the new "504" at your Supply House.

THE RIDGE TOOL COMPANY • ELYRIA, OHIO

RIGID
Work-Saver Pipe Tools

If you write maker identify as IEN - 12479

CONVEYING . . Drag link chain designed for operation in a trough

Source: LINK-BELT COMPANY
305-9 N. Michigan Ave., Chicago 1, Ill.

Folder 2445

Cast block type center links, made of malleable iron, or of the company's material Promal for particularly heavy duty, are alternated with steel side bars punched to take connecting steel rivets in this new Class-H chain. The cast links have integral end barrels for sprocket wheel contact on one end and a vertical pushing surface on the other. Wear shoes project beyond the rivet heads. The links can be turned over when they have worn on one face.

Four sizes in the line are 6 and 8 pitch. Rivet holes are punch broached for press fit and pitch control. The rivets are locked in the side bars to prevent rotation. They can be cadmium or zinc plated if desired.

If you write maker identify as IEN - 12480

RESISTOR . . Wire wound design, cylindrical in shape, to 2,000 watts

Source: MILWAUKEE RESISTOR CO.
708 W. Virginia St., Milwaukee 4, Wis.

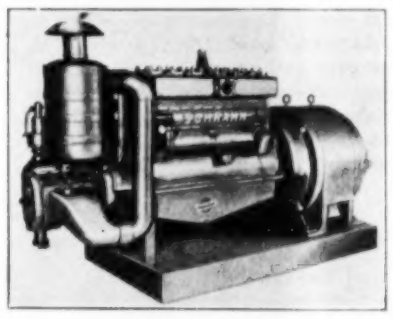
Available to order

Ribwound designates a new line of resistors in which a special resistance wire is wound on a high temperature refractory core. Connections are silver soldered. A protective coating of enamel is fired in place for good heat dissipation and exclusion of moisture. The resistor is available as a fixed, adjustable or multi-tap unit to specification.

If you write maker identify as IEN - 12481

COMPRESSOR . . Semi-portable unit, base mounted, rates 600 cfm. at 100 lb.

Source: SCHRAMM, INCORPORATED
800 E. Virginia Ave., West Chester, Pa.



Intake filter muffler

Super Unistage, Model 600, is a new water cooled single-stage motor driven compressor, about 40 per cent greater in capacity than the company's largest previous assembly. The compressor is base mounted with a 150-hp. induction, or synchronous, motor. It can be set up in a permanent installation or moved about by a fork truck.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12482

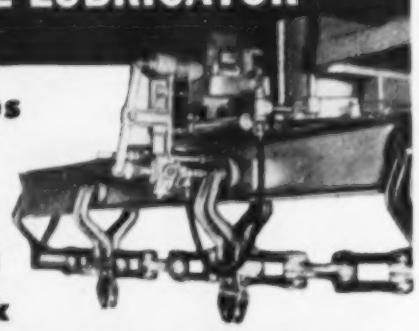
If you write maker identify as IEN - 12483

If you write maker identify as IEN - 12484

If you write maker identify as IEN - 12485

If you write maker identify as IEN - 12486

NEW! ALEMITE AUTOMATIC CONVEYOR TROLLEY WHEEL LUBRICATOR



Lubricates every wheel on both sides of the track

without stopping the line!

- No lubrication downtime
- Requires no floor space
- Reduces work spoilage
- Eliminates lubrication hazards
- Serves 3", 4", and 6" wheels at speeds up to 75 ft. per minute
- Fits right into existing line
- Lubricates over four miles of wheels on one filling

goes to work at the flip of a switch!

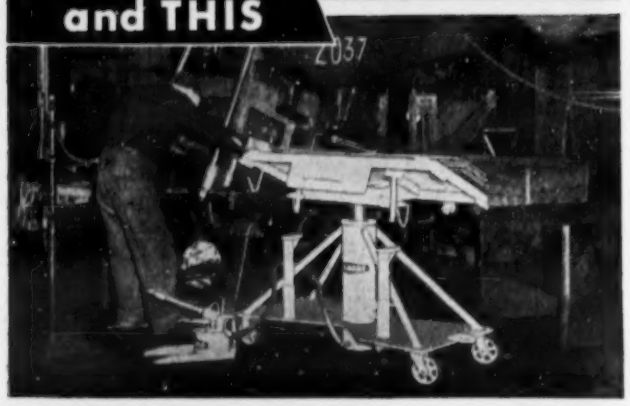
Write for full details

ALEMITE

Dept. K-113, 1850 Diversey Parkway
Chicago 14, Illinois

If you write maker identify as IEN - 12487

WHAT A DIFFERENCE



RAYMOND *Hydraulic*

Sheet & Strip FEEDING TABLE

Take a walk through your plant—and see how materials are handled at your machines. If you find makeshift arrangements, then it will pay you to investigate RAYMOND Sheet and Strip Feeding Tables! These Sheet and Strip Feeding Tables help prevent hazardous handling, reduce fatigue, increase output per worker. They enable skilled machine operators to devote their energy and time to the job you pay them to do.

With RAYMOND Sheet and Strip Feeding Tables, hydraulic power keeps the material at correct working level. The operator merely slides the material into position—no more stooping, tugging or lifting. What's more, these tables can be used to transport dies or move materials from storage to machines. Available with foot pump or electric-driven power pump—with flat or tilting top. Capacity: 2,000 lbs.

GET THE FACTS Mail the coupon and receive Bulletin 262—it describes RAYMOND Sheet and Strip Feeding Tables in detail!

The RAYMOND CORPORATION
3507 Madison St., Greene, N.Y.

Gentlemen: Please send me Bulletin 262

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____

If you write maker identify as IEN - 12489

BURRING . . Rotary brush machines and work turntable for gear teeth

Source: OSBORN MFG. CO.
5403 Hamilton Ave., Cleveland 14, Ohio

Fitted to the work requirements

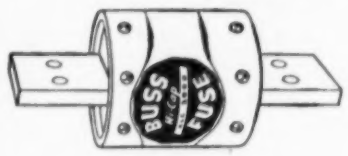
Illustrated is a new production setup of the company's No. 5 radial arm power brushing machines and a rotating fixture. The brushes remove burrs from gear teeth and erase scratches, tool marks and sharp corners. This setup employs three machines, two of the radial arm design to apply tampico brushes on the side faces of the work, one to drive a fine wire brush in contact with the gear profile.

The machines are controlled at a central cabinet. The operator is limited to placing and removing the work. The company is prepared to advise with manufacturers having product burring problems and to adapt this machine and others for production use.

If you write maker identify as IEN - 12490

FUSE . . Silver link assembly for loads from 600 to 5,000 amperes

Source: BUSSMANN MFG. CO.
2538 W. University St., St. Louis 7, Mo.



Bulletin HCS

High speed operation, on heavy shorts, characterizes the action of this new Hi-Cap fuse. The intense heat resulting from an arc instantly begins to fuse the chemically inert filler surrounding the link. This dissipates some of the energy generated by the short and cools the arc. The cooling action minimizes the amount of silver that is volatilized and helps block further generation of energy. A blown fuse can be returned for refilling at 50 per cent of the cost of a new one.

The fuse has sufficient interrupting capacity to handle any current within its rating. It opens sufficiently fast to limit the current to safe values. It clears the circuit fast enough to hold the induced magnetic forces to harmless values. It can be depended upon at any time over a long period of installation.

Five sizes employ terminals measuring ½ to ¾ in. in thickness. All are drilled with $\frac{9}{16}$-in. holes. Overall length is 11 inches. Diameter ranges from 3½ to 7½ inches.

If you write maker identify as IEN - 12491

Pockets made of transparent Vinylite plastic, equipped with the new slider or pinch type toothless seal strip, are available from Angler's Products Co., 45-24 162nd St., Flushing 58, N. Y. Sizes range from 5½ by 4½ in. to 11½ by 9 inches. A rigid reinforcement can be placed on the side parallel to the sealing strip in which to punch holes to place in a ring binder.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12492

FIREPROOF MAINTENANCE-FREE

Ruberoid Stonewall *asbestos-cement* Board is ideal for interior or exterior construction . . . cuts building costs . . . saves maintenance expense. It is fireproof, water-resistant, rot-proof, rat-proof, rust-proof . . . never needs paint. It is strong and rigid, yet bendable and easy-to-work. Can be sawed or scored and broken to size. Takes nails readily.

Use Stonewall Board for ducts, partitions, shower stalls, fire barriers, bins, exterior sheathing, arched roofs, etc. Write today for literature, cost and where to buy it. The Ruberoid Co., 500 Fifth Ave., New York 36, N. Y.

The RUBEROID Co.

ASPHALT AND ASBESTOS BUILDING MATERIALS

If you write maker identify as IEN - 12493

Guardian of industry!

Quaker

QUA-FLEX FIRE HOSE

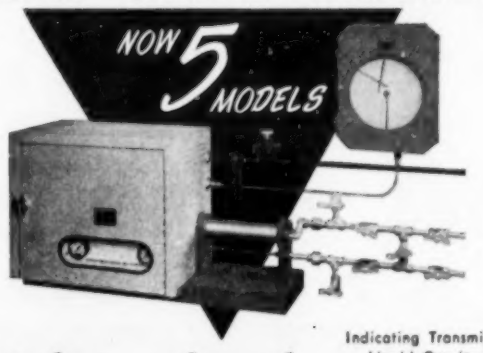
It's leak-proof and dependable! It gets water to the fire yet protects your plant equipment from leak-damage. Quaker Qua-Flex Fire Hose is cotton-rubber lined . . . yet is as flexible as linen hose. It fits any rack or reel . . . folds flat, easy to handle and store. Every length is tested to 300 P.S.I. The jacket is carefully woven of long-staple, sturdy cotton to permit the use of this hose again and again. Here's quick-drying ruggedness, long wear and big value! Factory Mutual approved. Insist on Quaker Qua-Flex!

Write for name of nearest distributor

QUAKER RUBBER CORPORATION
DIVISION OF H. K. PORTER COMPANY, INC.
OF PITTSBURGH
Dept. E, Philadelphia 24, Pa.
Branches in Principal Cities

If you write maker identify as IEN - 12494

LIQUID GRAVITOMETER



Indicating Transmitting Liquid Gravitometer

. . . for pipelines, gasoline and chemical plants, refineries, etc.

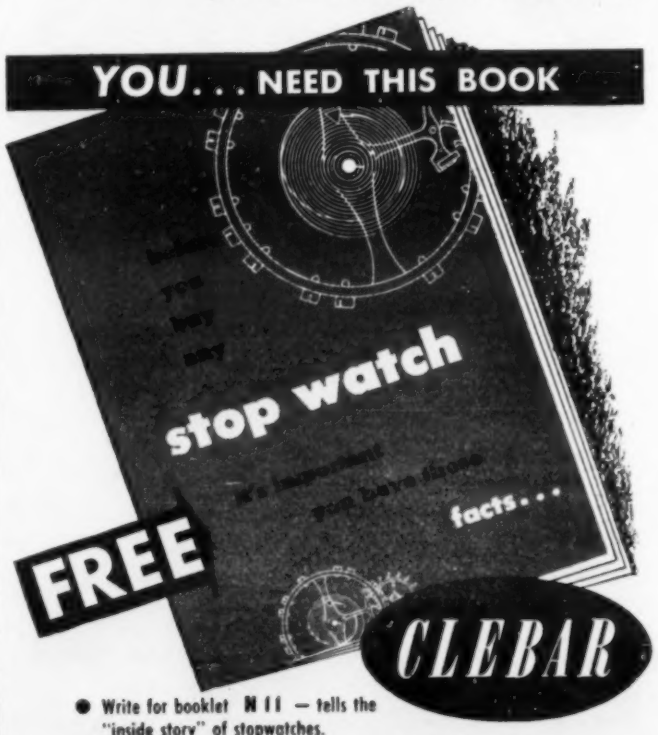
Ruggedly built for hard field use but with laboratory accuracy, the long accepted ARCCO-Anubis Liquid Gravitometer with all its splendid features is now available for recording, controlling, indicating, transmitting, or various combinations of these functions. Write us fully about your application and request Bulletin No. 111 Revised.

1. RECORDING LIQUID.
2. INDICATING TRANSMITTING.
3. INDICATING CONTROLLING.
4. RECORDING TRANSMITTING.
5. RECORDING CONTROLLING.

AMERICAN RECORDING CHART CO.
3113 E. 11th St. • Los Angeles 23, Calif.

If you write maker identify as IEN - 12495

YOU . . . NEED THIS BOOK



- Write for booklet N 11 — tells the "inside story" of stopwatches. Illustrates patented spare parts compartment. Shows what to look for in a timer. Complete, thorough, interesting. Must reading for users of stopwatches.
- Brand new Clebar catalog . . . illustrates and describes more than a score of stopwatches and chronographs for every timing purpose. Write for your copy today!

CLEBAR WATCH AGENCY · 521 Fifth Ave., N. Y. 17

If you write maker identify as IEN - 12496

Save!
with carbon and graphite
molds and dies

The ease with which carbon and graphite molds may be formed or machined to close tolerances often spells real economy. *In foundry work,* their high heat capacity makes them ideal as chills for both ferrous and non-ferrous metals. *In powder metallurgy,* they withstand heavy pressure at high heat and are widely used for hot pressing tungsten carbide base tool materials. And there are many other uses! Write on letterhead for Catalog 40A.

STACKPOLE

STACKPOLE CARBON COMPANY, *St. Marys, Pa.*

EVERYTHING IN CARBON BUT DIAMONDS

If you write maker identify as IEN - 12497

GRINNELL-SAUNDERS DIAPHRAGM VALVE

The operating principle of the Grinnell-Saunders Diaphragm Valve is simple. A rubber diaphragm, seating on metal, makes possible an absolute seal. At the same time, because working parts are wholly isolated, no packing glands are necessary, and stem leaks are impossible.

Successful on compressed air lines, it was only a matter of time before Grinnell-Saunders Diaphragm Valves were in demand for other type installations . . . handling materials as diversified as corrosive fluids, gases, beverages, foods, suspended solids . . . in lines where corrosion, abrasion, contamination, clogging, leakage and maintenance are costly factors.

Grinnell-Saunders Diaphragm Valves can be had with body, lining and diaphragm materials to meet different service conditions. Write for the Grinnell-Saunders Diaphragm Valve Catalog.

Quick Operating Valve

GRINNELL

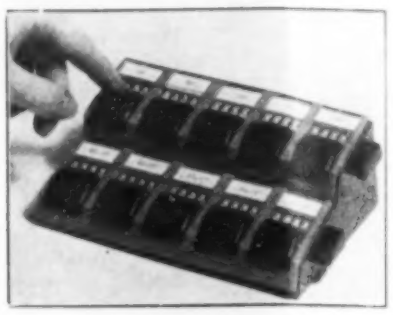
WHENEVER PIPING IS INVOLVED

GRINNELL COMPANY, INC.
Executive Offices: Providence, Rhode Island
Sales Offices and Warehouses in Principal Cities

If you write maker identify as IEN - 12499

COUNTING . . Multi-unit assembly for parts, products, people, money

Source: VEEDER ROOT INC.
18-22 Sargeant St., Hartford 2, Conn.



To help you count

Tiers to 6 high by 12 wide can be supplied in this new Vary-Tally manually operated multiple counter. Finger tip pressure on the lever in front of each unit registers the count on that unit in any total to 9,999. A reset knob returns all units to zero on a single complete turn of the reset shaft. The construction employs corrosion resistant parts and finishes. Internal operating parts are hardened steel. Panels, to insert descriptive legends, are located over the reading lines.

If you write maker identify as IEN - 12500

CLEANING . . Powdered material for use in electrolytic equipment

Source: KLEM CHEMICALS INC.
14403 Lanson Ave., Dearborn, Mich.

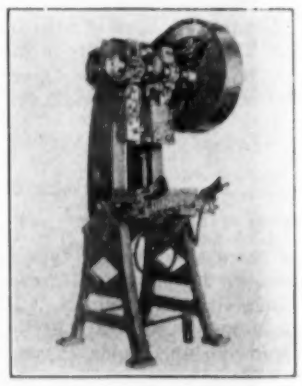
Works on direct or reverse current

Polishing and tumbling compounds, that harden and are difficult to remove, can be cleaned from ferrous work pieces employing the new "197" cleaning material in electrolytic equipment. The dry powder is added in the proportion of 2 to 8 oz. per gal. of water. It will "lift" the hardened compound from pits and crevices. The material is sold by the hundred weight in standard containers.

If you write maker identify as IEN - 12501

PRESS . . Open back inclinable, rates 15 ton, 125 strokes per minute

Source: DIAMOND MACHINE TOOL CO.
5109-13 Coffman Pico Road, Pico, Calif.



9 inch die height

New design of the company's previously developed 15-ton press includes a Meehanite frame casting and a metal guard that covers the flywheel. The press is available in plain design for 125 strokes per min. or with back gears for 70 strokes. The recommended motor rates 1½ hp. in both cases. Standard stroke measures 2 inches. Greater amount, to 4 in., can be specified. The bed measures 8 by 15⅜ inches. The press is suited for single-stroke or continuous operation.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12502

In Wilcolator's new series L thermal switches, a snap action bi-metal blade of entirely new design actuates contacts—provides extremely fast temperature response. Large contact gap permits high current ratings in small, compact units. Ceramic housing provides full 250-volt spacing of terminals—eliminates separate mounting insulators. Use these fixed temperature, thermally operated, snap action units as temperature limiters, for fixed temperature cycling, fan switches.

Rating:	30 Amp., 125 V. A.C. only	20 Amp., 250 V. A.C. only
Temperature. Limiting Switch:	Range 150° F—350° F ±10° F	Amplitude 50° F ±10° F
Fixed Temperature Cycling Switch:	Range 150° F—350° F ±10° F	Amplitude As Spec. 15° F min.
Type L-1 Contacts open on Temp. Rise.		Type L-2 Contacts close on Temp. Rise.

TECHNICAL DATA SHEET ON REQUEST

THE WILCOLATOR COMPANY
1001 Newark Avenue, Elizabeth, N. J.

If you write maker identify as IEN - 12503

KOHLER ENGINES

4-Cycle
Air-Cooled

Power for garden tractors, mowers, pumps, sprayers, snow removal equipment, elevators and hoists, mobile saws, concrete mixers, compressors, feed grinders, industrial and lift trucks, and a wide range of tools and equipment for industry, construction, farm and home.

Engineered and built to the quality standards that have won acceptance for Kohler Electric Plants the world over. Write for information.

Kohler Co., Kohler, Wisconsin. Established 1873

KOHLER OF KOHLER

PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS
AIR-COOLED ENGINES • PRECISION CONTROLS

If you write maker identify as IEN - 12504

PROBLEM: Obtain a Thermostat Element capable of quickly interrupting a circuit on heavy overloads before the Element becomes dangerously overheated

SOLUTION: General Plate TRUFLEX® THERMOSTAT METAL with a Magnetic Iron section added solved the problem

A leading manufacturer of Aircraft Circuit Breakers had the problem of obtaining a thermostat element that would interrupt a circuit running up to several thousand amperes. Previous elements didn't move fast enough and became overheated and destroyed on heavy overloads.

General Plate provided the solution with a TRUFLEX thermostat element with a magnetic iron section, butt welded to one end, which provided magnetic assistance to accelerate operation.

General Plate fabricates complete TRUFLEX thermostat metal elements and assemblies for installation in your products. You get accurate and consistent performance because every order comes to you an exact duplicate of the original . . . consistently uniform in tolerances, temperature reaction and performance, thus preventing rejects and costly adjustments in assembly.

General Plate TRUFLEX thermostat metal assemblies are made to meet your specific requirements for temperature range, electrical resistance, corrosion resistance, etc. If you prefer to make your own elements, General Plate will produce TRUFLEX thermostat metal strip to your material specifications. Write for TRUFLEX thermostat metal catalog and engineering assistance.

METALS & CONTROLS CORPORATION
GENERAL PLATE DIVISION
711 FOREST STREET, ATTLEBORO, MASS.

If you write maker identify as IEN - 12505

• Shaft and gear failures on sanitary pumps can be *eliminated* by slipping a HYDRO-SHEAVE Drive on the motor shaft. Twin Disc Double-Circuit design *absorbs* sudden shocks and overloads—*softens* both stops and starts—*protects* both pump and motor. Call your nearby Authorized Twin Disc Hydraulic Dealer.

A leading food processor solved shaft and gear failures on this filling machine pump with Model 9.5 HYDRO-SHEAVE Drive on his 10 hp. 1750 rpm motor.

TWIN DISC

TWIN DISC

TWIN DISC CLUTCH COMPANY, Racine, Wisconsin • HYDRAULIC DIVISION, Rockford, Illinois

BRANCHES: CLEVELAND • DALLAS • DETROIT • LOS ANGELES • NEWARK • NEW ORLEANS • SEATTLE • TULSA

If you write maker identify as **IEN - 12506**

TODAY'S BEST BUY!

Write for Details or See Your JOHNSON DEALER

MODEL J
10" x 18" Capacity

BONUS CAPACITY AT NO EXTRA COST

CUTS 10" ROUNDS, 18" FLATS

JOHNSON MANUFACTURING CORP.
ALBION, MICHIGAN

If you write maker identify as **IEN - 12507**

Hear **HERE!**

LOUDNESS REDUCED 50%*

Inside a Burgess-Manning Acousti-Booth

- The hushed interior of a Burgess-Manning Acousti-Booth provides a quiet, restful place to hear well.
- Light, sturdy construction for ease of moving . . . compact design.
- Doorless construction . . . light, airy, well ventilated.
- Wall and floor models.
- Suited to any noisy location.

Model 211 Floor Booth

Model 602 Wall Booth

** Based on studies by a prominent research organization*
Write for Bulletin A-107

BURGESS-MANNING COMPANY
Architectural Products Division
5970-A Northwest Highway, Chicago 31, Illinois

If you write maker identify as **IEN - 12508**

The Product Engineer
CAN HELP
Keep Business Booming

SYNCHRON®
TIMING MOTORS

help the engineer by delivering dependable, lower-cost performance in a wide variety of timing mechanisms.

HERE'S WHY: They're versatile, compact, powerful . . . operate in any position at temperatures from −40° to +140° F. Our engineers will help with special applications. Mail coupon for catalog, engineering data.

HANSEN MANUFACTURING CO., INC., PRINCETON 2, INDIANA
Send catalog and engineering data to:

Name .....
Firm .....
Address .....
City ..... Zone ..... State .....

If you write maker identify as **IEN - 12509**

GAGE . . Dial indicator unit for depth measurements to 6¾ inches

Source: RELIANT INDUSTRIES
4945-49 Firestone Blvd., South Gate, Calif.

Height about 5 inches

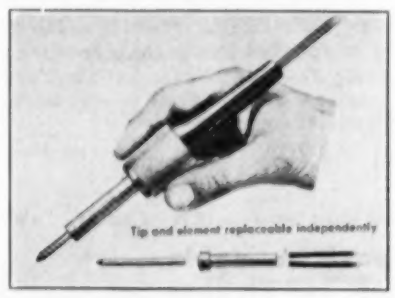
Depth rods are inserted and set to a gage in initial setup of this new depth gage. Then it is employed to read plus or minus 0.005 in. of the set up depth on its dial indicator. A push-button provides adjustment to release, set or exchange rods.

The gaging face of the anvil is hardened, ground and lapped square to the center line of the rod axis. The measuring rods are hardened and ground 0.125-in. drill rod. One end is spherical. The other is flat and square. One 8-in. rod is made with a foot to gage recesses. List price, with three rods for maximum depth of 3, 4¾ and 6¾ in., is $87.50.

If you write maker identify as **IEN - 12510**

SOLDERING . . Electric iron employs replaceable tip and element

Source: HEXACON ELECTRIC CO.
155 W. Clay Ave., Roselle Park, N. J.



List price is $5

Weight is 2 oz. for this new pencil type electric soldering iron. It has been developed to solder connections in instruments, small electronic and electrical equipment, subassemblies, jewelry. The iron is held like a pencil by its cool handle 3 in. from the joint to be soldered. The tip and element are separate units and can be replaced.

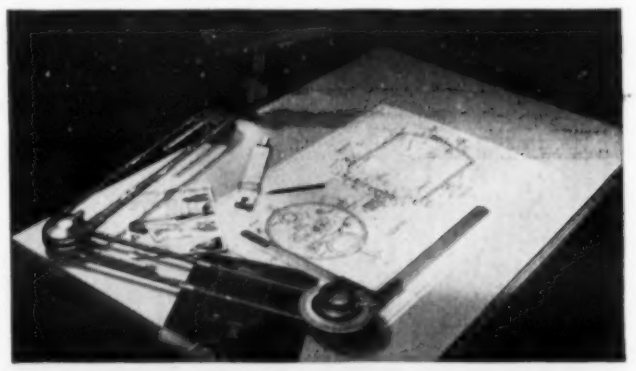
Two ratings are 25 watts with a ⅛-in. tip and 30 watts with a $\frac{3}{16}$-in. tip. Catalog numbers are 25S and 26S. Element, tip and housing are made of special alloys. The design results in fast heating and ability to maintain soldering temperature. Operation is on 110 or 220 volts as specified. Either ac. or dc. will heat the element.

If you write maker identify as **IEN - 12511**

Nickel-Lume is the trade name for a new organic type of bright nickel plating process. It has been developed by Hanson-Van Winkle-Munning Co., 100 Filbag St., Matawan, N. J. It employs a bath operating at room temperature or at 140 deg. F. or more. Temperature is not required over 120 deg. F., with moderate to high current density. Regular non-premium nickel anodes are used.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 12512**



Always Good . . . **NOW BETTER**
Universal Drafting Machine
WITH 360° FULL-VISION PROTRACTOR

The Universal policy of continuing product improvement has again borne fruit. Always good—always tops in its ability to produce precise lower-cost engineering drawings—the Universal now is better—a new base line clamp enhancing its accuracy and expediting pressure adjustment of the clamp whenever necessary.

Universal is a work-horse on any type board—flat, angle or vertical. It combines into one sturdy instrument all the most used tools of the draftsman's art. It saves time—effort—money. Used with accurate Duraline Scales, the Universal Drafting Machine will be a permanent challenge to better engineering performance on YOUR board.

Write today for illustrated bulletins.

THE UNIVERSAL DRAFTING MACHINE CORP.
7960 Lorain Ave. • CLEVELAND 2, OHIO

UNIVERSAL
DRAFTING MACHINE — DURALINE SCALES

If you write maker identify as **IEN - 12513**

NEW

SWEEPS FAST, exceeding 100,000 sq. ft. per hr.

DUMPS MECHANICALLY in less than 24 seconds.

MORE MANEUVERABLE. Turns in only 60" radius.

PICKS UP bulky debris as well as dirt, dust.

. . . and built for YEARS of service!

Rugged NEW "Model 75" reverses instantly; is built for heavy duty work. Also in smaller models.

TENNANT

Model 75 Power Sweeper

Pays for itself in about 90 days . . . and is built for years of tough round-the-clock sweeping. Drives like a car; has exclusive instant reverse feature, automotive steering, mechanical dumping. Covers 48" path (with sidebrush). *Write for details!*

G. H. TENNANT CO.
2574 N. 2nd St., Minneapolis 11, Minn.

TENNANT Established 1870

INDUSTRIAL FLOOR MACHINES
OFFICES IN PRINCIPAL CITIES

If you write maker identify as **IEN - 12514**

Speed Up Production
Secure Greater Uniformity
Save Time, Labor, Fuel

with more than 2,000 manufacturers now using

ROSS INDUSTRIAL AIR SYSTEMS

DRYING . . . . . BAKING
CURING . . . . . COOLING
HEAT TREATING . . . AGING
CONDITIONING

ROSS WEB OR PARTICLE DRYING Systems — batch and continuous types in wide use for drying processes in such industries as ceramics, chemicals, drugs, pulp and paper, plastics, rubber, textiles, cork products, insulating materials, thread, floor covering, wall board and many others. Catalogs on request.

J. O. ROSS ENGINEERING CORPORATION
MANUFACTURERS OF AIR PROCESSING SYSTEMS
444 MADISON AVENUE NEW YORK 22, N. Y.

Chicago • Detroit • Boston • Los Angeles • Seattle • Montreal

If you write maker identify as **IEN - 12515**

the GRAVELY does more Maintenance Jobs Better!

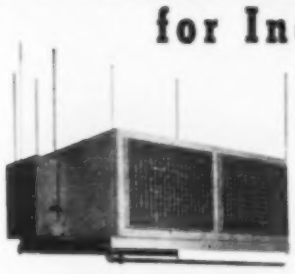
Grounds upkeep and maintenance problems are solved quickly, easily and BETTER when you use the powerful 5-HP Gravely Tractor! . . . 21 tools for year-round use with seasonally selected attachments, quick change from job to job in minutes! Only the Gravely does so many jobs so well!

All-Gear Drive, Power Reverse. Institutions-tested for 32 years . . . Ask for your copy of FREE Gravely catalog. "Power vs. Drudgery." Find out how you can do MORE jobs faster and better. Write for it today!

GRAVELY TRACTORS, INC.
Box 1140 · Dunbar, West Virginia

If you write maker identify as IEN - 12516

Controlled Humidification for Industry



Bahnson Type BA-2 Self-Contained Humidifier

Requires only water supply and electrical connection

SOLVES YOUR DRY AIR PROBLEMS AT MINIMUM OPERATING COST!

- HIGH CAPACITY—Evaporates up to 18 gph.
- AUTOMATICALLY CONTROLLED at any desired relative humidity.
- NEEDS NO pump, duct, compressed air, steam or floor space.
- EFFICIENT centrifugal atomization of ordinary city water.
- FLEXIBILITY—Can be used for heating as well as humidifying and filtering.
- MOIST AIR delivered in controlled pattern without droplets.
- EASY TO INSTALL—Just uncrate and suspend from ceiling.
- TROUBLE-FREE—Guaranteed by America's largest maker of industrial humidification equipment.

For positive humidity control for one room or your entire plant, check Bahnson's complete line of humidification equipment. Write today.

FOR TRULY DEPENDABLE LOW-COST HUMIDIFICATION **Bahnson Company** ENGINEERS AND MANUFACTURERS WINSTON-SALEM, N. C.

If you write maker identify as IEN - 12517

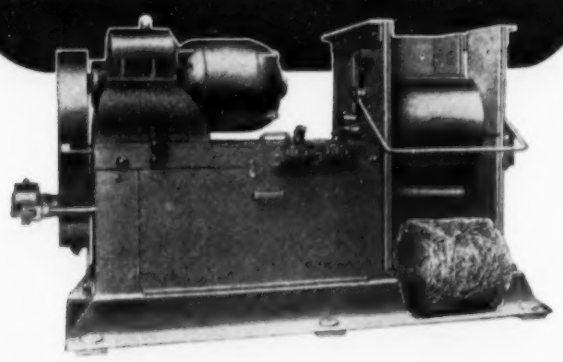
NOW! Bundle Scrap

into

18" and 24" Diameter Bundles

EASY TO HANDLE, SHIP, REMELT OR STORE . . . with the

McLanahan SCRAP BUNDLER



Designed for efficient bundling of scrap wire and strip metals, anything of a stringy nature, the new McLanahan Scrap Bundler "wraps" scrap into compact cylinders for easy handling. Fast and economical in operation, this new machine is the answer to your scrap bundling problems.

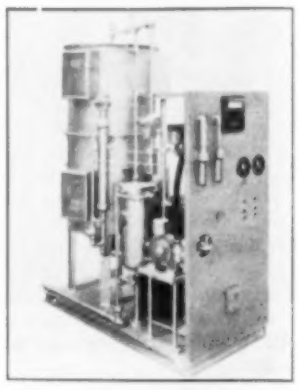
Write for new "Scrap Bundler" Bulletin Today!

McLANAHAN and STONE Corp.
Hollidaysburg, Pa. SINCE 1835

If you write maker identify as IEN - 12519

HEAT TREATING . . Gas generator produces protective furnace atmosphere

Source: HEVI DUTY ELECTRIC CO.
4210-14 W. Highland Blvd., Milwaukee 1, Wis.



Bulletin 753

Three new sizes have been added to the company's endothermic furnace atmosphere generator, previously described IEN-72-52. The new units have 300, 500 and 750 cfh. ratings. They and the original 150-cfh. unit are suited for use in hardening alloy and high speed steels, high and medium carbon steels, brazing high carbon steels and as a carrier gas generator in carburizing and carbonitriding. Each assembly is a packaged unit mounted on a structural base with a control panel at the front.

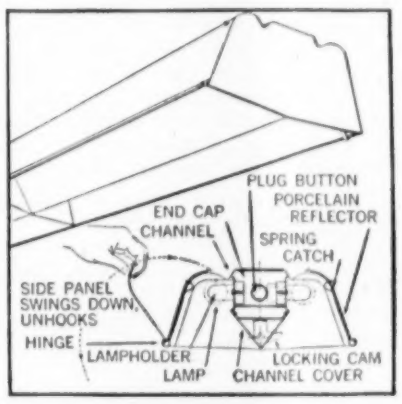
Incoming air and gas, from pressure supplies, enter through flow meters. The gas is reduced to atmospheric pressure and passes, with the air, through a mixing valve to a compressor. It drives the mixture through a flow control valve, oil separator and fire check to the electrically heated catalyst filled retort. Carbon monoxide, hydrogen and nitrogen are liberated in the retort and issue from it to a heat exchanger to be cooled to 100 deg. F., or less, prior to entering one or more furnaces.

Controls protect the action at each step in the cycle. Overall dimensions are 7 by 4 ft. for each of the three new units in length and width. Head room, to clear the retort, is about 9½ to 14½ feet. The atmosphere delivery line is 2 inches.

If you write maker identify as IEN - 12520

LIGHTING . . Fluorescent fixture directs 25 per cent of light upward

Source: F. W. WAKEFIELD BRASS CO.
River Road at B & O, Vermilion, Ohio



Bulletin 2-53

Porcelain enameled side reflectors hinge out and downward to simplify cleaning this new Pacemaker fluorescent fixture. They are held in closed position by catches. They leave a slot along the fixture, on each side of center, so about 25 per cent of the light is directed upward for general ceiling reflection. The channels, channel covers, end panels and side panels are steel. The structural parts are processed with Duridine prior to enameling.

The fixture is available with two lamps, 40-watt Pre-Heat or Rapid-Start, 85-watt Pre-Heat, 72-watt Slimline. The 4, 5 and 6-ft. sections can be mounted singly or in continuous rows. Chain hangers, cable clamps and stems provide for installation from overhead.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12521

If you write maker identify as IEN - 12522

Save Time, Save Money with G-E Time Switches

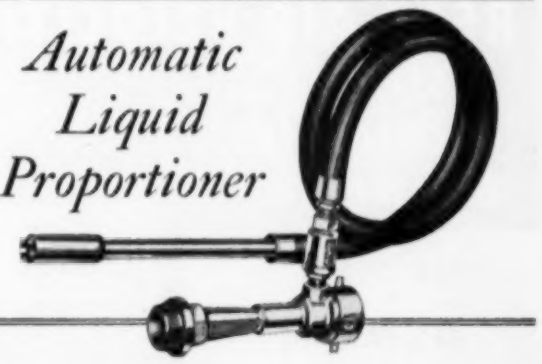
- **Automatic, dependable time control; adaptable to every on-off operation.**
- **Release n. ·npower for other jobs; cut machine wear, power costs—equipment operates only when necessary.**
- **T-27 performs up to 10 on-off operations daily; the T-47, 2 operations.**

Contact your nearest authorized General Electric distributor or General Electric Company, Schenectady 5, New York. 603-163

GENERAL ELECTRIC

If you write maker identify as IEN - 12523

Automatic Liquid Proportioner



Are you feeding one liquid into another on a fixed percentage basis? If so, why not do it both automatically — and economically?

This Rockwood Eductor, used in fire fighting for automatically introducing 3 parts of Rockwood FOAM into 97 parts of water, can also be used for many other purposes. It is "tapped" into the line containing the basic liquid. Then it automatically introduces the other liquid into the line at a predetermined rate. Excellent for dust control and many other uses.

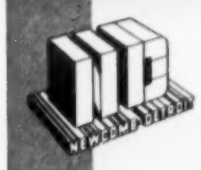
Send us your particular liquid-proportioning problem and Rockwood engineers will gladly show you whether the Rockwood Eductor can automatically solve it for you.

ROCKWOOD SPRINKLER COMPANY
Engineers Water . . . to Cut Fire Losses
Portable Fire Protection Division
40 HARLOW STREET, WORCESTER, MASS.

If you write maker identify as IEN - 12524

NEWCOMB-DETROIT

PIONEERS IN ENGINEERING, MANUFACTURING & INSTALLING OF



INDUSTRIAL OVENS
•
SPRAY BOOTHS
•
PARTS WASHERS
•
DUST COLLECTORS
•
HEAT and AIR SYSTEMS

ESTABLISHED 1912
- DETROIT DIVISION
- GRAND RAPIDS DIVISION
- NEWCOMB INDUSTRIES, LTD., WINDSOR DIVISION

For Bulletins and Quotations, Wire, Write or Call—
NEWCOMB-DETROIT
5757 Russell St., Detroit 11, Mich.
TR 3-2100

If you write maker identify as IEN - 12525

DO REJECTS SLOW UP YOUR PRODUCTION LINE?

Oakite paint strippers may help you break the bottleneck

When painting rejects slow production, you may need one of the stripping methods described in "How to STRIP PAINT", a free booklet which answers many questions about effective stripping procedures. For example:

¶ What's the cheapest way to strip metal parts in large volume? *See page 9.*

¶ What strippers are best for removing oil-base paints?... Synthetic enamels, alkali-resistant plastics or resin-base paints?...Japans, wrinkle finishes, nitrocellulose lacquers, alkyds, phenolics and ureas? *See page 12.*

FREE For a copy of "How to STRIP PAINT" write to Oakite Products, Inc., 16A Rector St., New York 6, N. Y.

SPECIALIZED INDUSTRIAL CLEANING
OAKITE
MATERIALS • METHODS • SERVICE

Technical Service Representatives in Principal Cities of U. S. and Canada

If you write maker identify as IEN - 12526

READ AIR VELOCITIES instantly... accurately... anywhere...

...WITH THE

ALNOR VELOMETER

Alnor Velometer, a precision-built, self-contained, portable instrument, gives you instant, *accurate* readings of air velocities anywhere—in plants, mines, mills or laboratories. Measures speed of air flow through ducts, grilles, furnaces, spray booths or in the open. This rugged instrument needs no special care or delicate handling—anyone can use it and get accurate readings. Needs no calculations or reference charts. Available in a wide variety of scale ranges, and with a full assortment of jets and fittings for every application. You'll want full details and prices, so write for Bulletin 2448-G, Illinois Testing Laboratories, Inc., Room 517, 420 No. La Salle St., Chicago 10, Ill.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

If you write maker identify as IEN - 12527

REZNOR GAS UNIT HEATER

the world's largest-selling GAS UNIT HEATER

Invites Your Consideration

★ Low First Cost
★ Low Noise Level
★ High Efficiency
★ High Value

See Sweet's Catalog Files or Mail the Coupon Today

REZNOR MANUFACTURING COMPANY
10 UNION ST. • MERCER, PENNA.

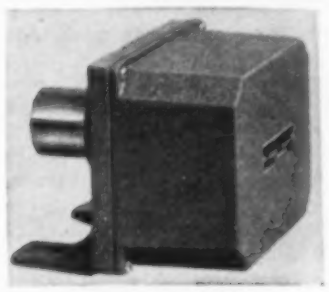
NAME_____
FIRM_____
ADDRESS_____
CITY_____ ZONE_____ STATE_____

I am an ☐ ARCHITECT ☐ BUILDER ☐ HEATING ENGINEER

If you write maker identify as IEN - 12528

CONTROL.. Photoelectric equipment in "fail safe" design for general duty

Source: AUTOTRON COMPANY
Box 722-C, Danville, Ill.



Literature on request

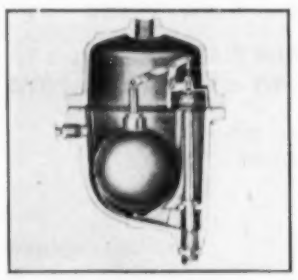
Type F is a new photoelectric control in which the plate relay is energized as long as the light beam is on the photoelectric tube and all of the tubes in the circuit are in operating order. Interruption of the light beam, failure of the light source or of a tube de-energizes the relay and opens or closes the control circuit. A special dc. control circuit can be operated at speeds to 1,200 per minute.

The equipment is assembled in a splash proof cast aluminum housing and includes a sensitivity adjustment. The relay contacts are single-pole double-throw design and are rated at 15 amp. on 110-volt ac. A built-in or remote photoelectric head and various designs of light source can be specified. Applications include control of liquid level, travel limit, smoke detection, registration, safety limits.

If you write maker identify as IEN - 12529

TRAP.. Drains water and sludge from compressed air tanks, aftercoolers

Source: WILKERSON CORPORATION
3469 S. Platte River Drive, Englewood, Colo.



Large flow orifice

Series 1070 is a new float actuated pressure operated trap to apply in a drain line from a compressed air tank or aftercooler. Its float rises, as water and sludge accumulate, until the float connected piston valve releases pressure from above the main valve piston and seals the hollow piston stem leading to the drain port at the bottom of the trap housing. This leaves upward pressure on the piston from inside the housing and it rises with the stem to open the drain.

Pressure blows the accumulation out of the trap body, the float lowers, the escape port is sealed above the piston and the spring returns the stem to closed position. The trap is available for ½ to 2 in. air lines. Drain capacity is to 250 gallons per hour. The trap is characterized by its freedom from any tendency to clog. List prices start at $56.

If you write maker identify as IEN - 12530

Teflon is a plastic that, normally, will not stick to itself or to anything else. Now, however, a new adhesive is offered by Flexrock Company, 3604-C Filbert St., Philadelphia 1, Pa., that will make it stick most everywhere. The adhesive is pressure sensitive. It has good acid and alkali resistance and excellent electrical insulating properties. It is available in small quantities for test purposes at $3.50 per pound.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12531

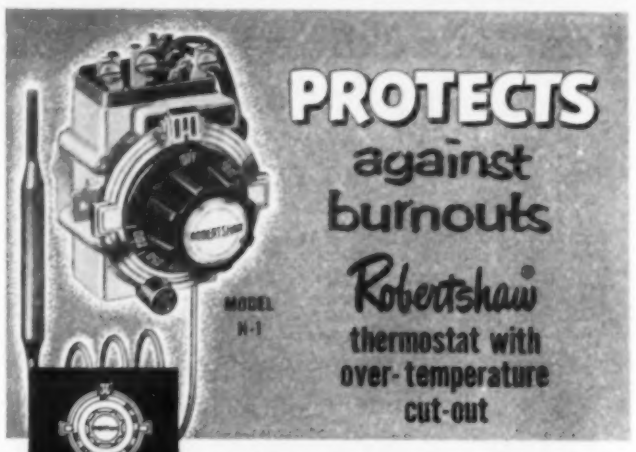
HOW TO SELECT STRAPPING TOOLS

● Complete catalog offered by Brainard Steel lists applications of all types of tools and accessories for tensional and heavy-duty steel strapping. Includes specifications; fully illustrated. With the Brainard Strapping System, you can improve efficiency of packaging, carloading, palletizing, bundling, export crating, and warehousing —Brainard's complete line covers over 1000 kinds of strapping, tools and accessories. Get the complete story now.

Brainard
STEEL DIVISION
SHARON STEEL CORPORATION

For Catalog write:
BRAINARD STEEL DIVISION
Griswold Street, Dept. 11-11
Warren, Ohio

If you write maker identify as IEN - 12532



PROTECTS against burnouts

Robertshaw thermostat with over-temperature cut-out

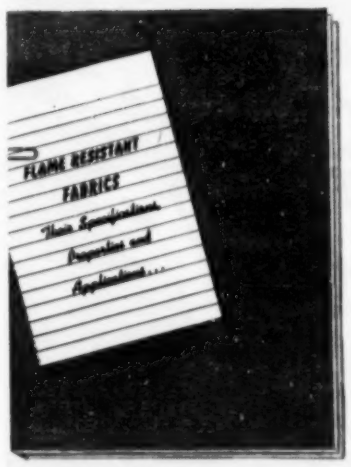
Combines temperature control with a single pole switch. Current is automatically cut off and switch is locked in open position if temperature at any dial setting, through any cause, exceeds temperature range of control by approximately 7% in liquids or 12% in air. Switch remains open until closed by manual reset button. In direct or reverse acting models. Write for Catalog.

Robertshaw-Fulton CONTROLS COMPANY

ROBERTSHAW THERMOSTAT DIVISION, Youngwood, Pennsylvania

If you write maker identify as IEN - 12533

FLAMEFOIL CANVAS* ...answers the "burning question" -because It can't Blaze



Direct flame will only char FLAMEFOIL treated fabrics at the point of contact.

Fire cannot spread...not even a continuing smoulder to consume the rest of the material after the source of the flame is removed.

The patented FLAMEFOIL process extends the life of the fabric; neither soaking nor exposure will remove its protection against fire, water, weather and mildew.

Tensile strength is preserved and the canvas stays pliable.

SEND TODAY for this booklet...learn how Flamefoil canvas can give an extra margin of safety against fire in your plant.

Philadelphia Textile Finishers, Inc.
102 LAFAYETTE STREET
NORRISTOWN, PENNA.

*Manufactured under Patents Nos. 2,044,176 and 2,299,612, others pending.

If you write maker identify as IEN - 12534

FAMOUS "CHEM-BOARD"* **CONVOY** TOTE BOXES

*Chemically Hardened Corrugated Board

SOLD THROUGH LOCAL INDUSTRIAL DISTRIBUTORS

Cost—weigh—50% to 60% less than steel. A wide range of sizes in standard and custom made NESTING, STACKING, VERTICAL TOTE BOXES. Write for complete information, prices, name of distributor in your area.

CONVOY RECORD STORAGE FILES
Sold Only by YOUR LOCAL STATIONER

Used by most famous names in industry and businesses of all kinds. CONVOY "CHEM-BOARD" files for record storage made in letter, legal, and 12 other sizes. Stack to ceiling, mate together. Call your local stationer or write for name of stationer nearest to serve you.

CONVOY, INC.
Canton 6, Ohio
P. O. Station B, Box 216-1

If you write maker identify as IEN - 12535

THERE are hundreds of different types of felt, and it is important to select the right one for each application. Felt is an engineering material, which can be, and should be, specified as closely as any other. We have a vast knowledge of all types of natural and synthetic fibres, and will be glad to collaborate with you in working out specifications. In many instances we have been able to solve such problems as premature breakdowns, leakage of lubricants, fast filtration, vibration absorption, and many others, by recommending exactly the right felt. Come to American with your felt problems.

American Felt Company
TRADE MARK
18 GLENVILLE ROAD, GLENVILLE, CONN.

If you write maker identify as IEN - 12536

Chemiseal Extruded-Teflon Packings are universal packing materials because they are inert to all chemicals (except molten sodium and fluorine). Cannot be attacked by any material in process. Are serviceable from −110° F. to +500° F. Are tough, resilient, extremely anti-hesive allowing shafts and spindles to operate freely.

These ideal packings for field maintenance and emergency service—on valves, pumps, agitators, autoclaves, couplings or other stuffing box applications—are made in two types. No. 620-EG (graphite impregnated) and No. 620-EM (with mica).

Sold by the foot in continuous coils—they are available in ¼ in. cross section and up in increments of 1/16 in.

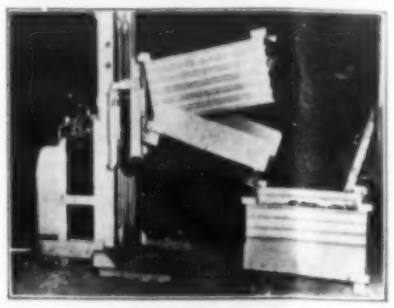
Ask your supply house or write for Catalog No. 620 EG and EM.

UNITED STATES GASKET COMPANY
FLUOROCARBON PRODUCTS DIVISION
CAMDEN 1, NEW JERSEY
Representatives in Principal Cities Throughout the World

If you write maker identify as IEN - 12538

TRUCK . . Dump box attachment for company's fork lift truck

Source: RAYMOND CORPORATION
35115 Madison St., Greene, N. Y.



Data on request

Two-part box, made with a hinged bottom and an inverted lift angle, applies on the company's fork lift truck to handle work loads that can be lifted and dumped. The truck is equipped with an engaging plate that is moved vertically by a separate draulic cylinder.

The loaded box is picked up by positioning and raising the forks. The load is carried to a dumping location, as in front of a machine, and the hydraulic cylinder is actuated. Its vertical upward movement raises the rear portion of the box, causes the lower part to hinge open and the load is dumped.

If you write maker identify as IEN - 12539

DRIVE . . Transmission belt for high speeds and severe flexing

Source: GOODYEAR TIRE & RUBBER CO.
1142-46 E. Market St., Akron 16, Ohio

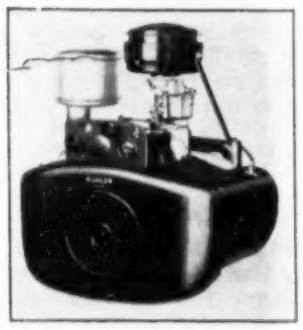
Rayon permits thin carcass

Thor Rayon designates a new transmission belt in which a combination of rayon plies and rubber carry the load. Outer cotton plies, under minumum tension, are free to flex. Belts of 5 plies and over have heavy duty cotton duck top and bottom with inner plies made of rayon sealed in rubber. All of the plies are rayon in belts of four or fewer plies. The construction is available in a range of sizes, starting at 1½ in. by three ply. The belt is sold in rolls of about 550 ft., in half rolls and in cut lengths to meet specifications.

If you write maker identify as IEN - 12540

ENGINE . . Two cylinder gasoline, air cooled, 26.8 hp. at 3,600 rpm.

Source: KOHLER COMPANY
1230 High St., Kohler, Wis.



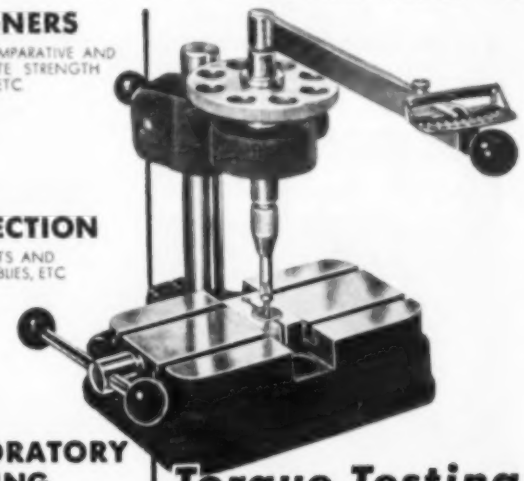
For steady duty

Opposed cylinders are enclosed in an air directing hood for efficient cooling in this new Type K-660 four-cycle gasoline engine. An oil bath air cleaner, carburetor, diaphragm type fuel pump, flyball governor and muffler are standard equipment. Throttle and choke controls and an oil pressure gage are mounted on a panel at the front. The governor is set for operation at 3,000 rpm. in standard assembly. At this the engine develops 24.4 hp.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12541

If you write maker identify as IEN - 12542



DESIGNERS for COMPARATIVE AND ULTIMATE STRENGTH TESTS, ETC.

INSPECTION of PARTS AND ASSEMBLIES, ETC.

LABORATORY TESTING of SCREWS, SOCKETS, TAPS, LOCK NUTS, DRIVING BITS, HAIR SPRINGS, ETC.

PRODUCTION QUALITY CONTROL for DELICATE OPERATIONS, ASSEMBLY OF FRAGILE MECHANISMS OR INSTRUMENTS, FOR FASTENERS IN PLASTICS AND LIGHT METALS.

Torque Testing FIXTURE

A universal fixture with 1000 uses. Holds driver in accurate alignment; in instrument bearings. Provides rapid engagement with test sample...torque is applied and measured with Sturtevant Torque Wrench.

Model TTF¼ Capacity 0-200 in. lbs.
Model TTF½ Capacity 0-150 ft. lbs.

Write for Bulletin TF

P.A. STURTEVANT CO.
ADDISON QUALITY ILLINOIS

If you write maker identify as IEN - 12543

If you write maker identify as IEN - 12544

Why wait for delivery on precision boring tools?

Get immediate delivery of Davis stub boring tools with unfinished shanks and finish them in your own shop

It's fast. It's inexpensive. It's practical. In hours your order is shipped from stock. Without costly delays, you have high precision boring tools for any job requiring 1¼ to 7 in. bore diameter.

Properly centered and prepared for turning, Davis tools are designed for use with high speed steel, super high speed steel, or tungsten carbide tipped cutters. They are the same high quality tools — heat-treated 4150 alloy steel Rockwell "C" 28.32 — as Davis finished shank tools.

For details, see your Davis representative or write for Bulletin DB-110.

If Davis can't bore it — it can't be done

DAVIS BORING TOOL DIVISION
GIDDINGS & LEWIS MACHINE TOOL COMPANY
FOND DU LAC, WISCONSIN

Builders of plain and micrometer adjustable block type boring tools; line boring bars; special boring tools; car boring tools; planer, vertical boring and turning mill tools; Quick Change arbors and sleeves.

If you write maker identify as IEN - 12545

. . . for micrometer-precision speed control . . .

HANNA *Flo-Set* SPEED CONTROL VALVES

For *precision* speed control, measured by a consistent, constant gauge, Hanna offers a line of Flo-Set Valves ¼", ⅛" and ½". Micrometer graduations in hundredths of a revolution permit precision regulation of flow. For light piping and tubing, there's a ¼" Flo-Set Jr. Valve, without micrometer markings.

Hanna Flo-Set Valves are suitable for air, oil or water control, with maximum pressure to 250° p.s.i. and temperature to 250° F. They may be mounted in any position.

WRITE FOR NEW BULLETIN 257
Send for free Bulletin 257 describing the complete line of Hanna Flo-Set Valves.

Hanna Engineering Works
HYDRAULIC AND PNEUMATIC EQUIPMENT • CYLINDERS • VALVES • RIVETERS
1748 Elston Avenue • Chicago 22, Illinois

If you write maker identify as IEN - 12546

NEARLY TWO MILLION NOW IN USE

FOSTORIA LOCALITES

for Machine Tools, Assembly and Inspection Benches

Industry's best tool for fast, accurate, comfortable "Seeing"

$6.12 EACH in package of 6
Single Units $7.65 Each

MODEL 3267-H-174
Overall length 32¾". Three instantly adjustable joints. Flat oblong base for machine screw mounting.

- **Rugged Construction** withstands vibration and rough handling
- **Instantly Adjustable** with flexible ball and socket joints
- **Reflector** accommodates 100 watt or any A-19 or A-21 medium screw base lamp
- **Baked Enamel Finish** — Exterior, smooth Gray — Reflector Interior, high temperature White
- **Wired Complete** with switch socket and 8-ft. oil-resistant cord and moulded plug

LOCALITE fostoria for Light ON the Job

Write for complete catalog of Localite models with various type reflectors, arms and bases for every industrial use.

THE FOSTORIA PRESSED STEEL CORPORATION
FOSTORIA, OHIO
Localites are available through wholesalers everywhere

If you write maker identify as IEN - 12547

New Selector and Comparison Chart for AMSCO Hardfacing Products...

Get this completely, revised up-to-date chart showing you what Amsco Welding Rod to use for licking your wear problem.

Ask your Amsco representative or send the coupon today.

AMSCO
389 E. 14th Street
Chicago Heights, Illinois

Please send me the Selector and Comparison Chart for Amsco Hardfacing Products.

Name _____
Company _____
Address _____
City _____ State _____

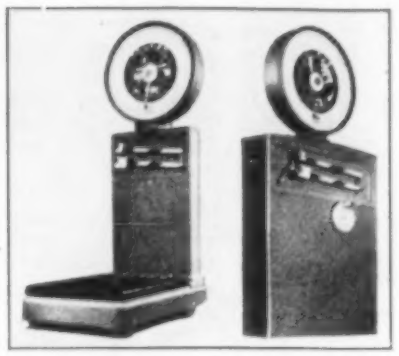
AMSCOATING—*the right way to say hardfacing*

American Brake Shoe Company — American Manganese Steel Division
415 East 14th Street • Chicago Heights, Ill.

If you write maker identify as IEN - 12548

WEIGHING . . Dial type scales for bench, floor and built-in uses

Source: TOLEDO SCALE CO.
10 Telegraph Road, Toledo 1, Ohio



Catalog Form 2001

Capacities range from 5 lb. to 30 ton in the company's new line of industrial scales. The line includes units for net weight packaging, counting, mailing, materials and truck weighing, bench, portable, built-in, overhead mounted designs.

Indicating heads can be mounted to face in any one of eight directions or can be set to turn through 360 degrees. One-piece sectors in the weighing mechanism, oil seals and rubber gasket protection, feature the construction. Platform dimensions on the bench model are 20 by 20 in. and on the portable floor model are 24 by 30 inches. The company has prepared a condensed presentation with illustrations and will send a copy on request.

If you write maker identify as IEN - 12549

MARKING . . Roll type machine for cartridge cases to 105 mm. size

Source: NOBLE & WESTBROOK MFG. CO.
21 Westbrook St., East Hartford 8, Conn.

Foot control

Model 353 is a new air operated roll type marking machine to impress identification data into the base surface of brass or steel cartridge cases. The machine is designed to replace a press operation requiring 50-ton pressure. It weighs about 1,000 lb., measures 28 by 30 in. at the floor line.

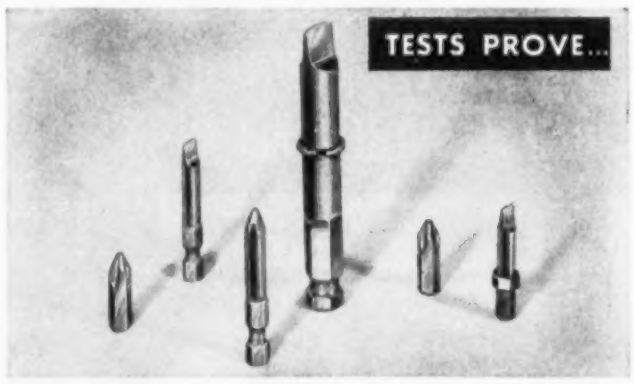
The work is supported under the rim of a U-shaped anvil adapter for quick loading and unloading. The adapter is replaceable for changing work sizes. Compressed air applies pressure between work and die. It also operates the die-slide piston to move the die across the surface to be marked. Both slides return by themselves to starting position ready to receive the next work piece.

If you write maker identify as IEN - 12550

If you operate a flexible shaft machine made by N. A. Strand, 5009 N. Wolcott Ave., Chicago 40, Ill., and want to speed it up to drive carbide and high-speed tools, you can order a new high-speed attachment from the company. This attachment applies on the Strandflex machine. It adds four speeds for a top of 36,000 rpm.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12551



HOMMEL ALL METAL BITS DRIVE MORE SCREWS!

Close tolerance machining of finest, toughest shock-and-abrasion resistant tool steel is the reason — the reason Hommel All Metal power screwdriver bits outperform, outlast all others! Tests by major aircraft and automotive manufacturers actually *prove* Hommel bits last longer, cut production costs. All types and sizes are now in the Hommel line — hex drive, threaded or "Stubbies" for slotted, Phillips or Frearson (Reed and Prince) screws. Write for new catalog.

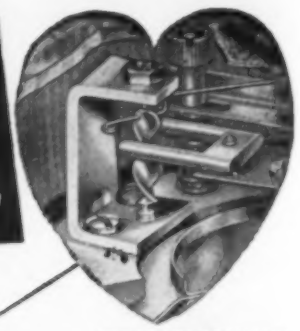
HOMMEL ALL METAL BITS

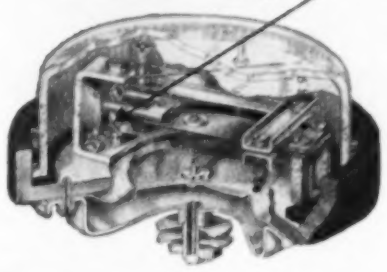
"Quite a Bit—Lasts Quite a Bit Longer"
All Metal Bit Company, 727 Penn Avenue, Pittsburgh 21, Pa.

If you write maker identify as IEN - 12552

Only DWYER MAGNEHELIC GAGE has the ultra-sensitive "MAGNETIC LINK"

Not subject to surge or vibration damage





EXCEPTIONALLY VALUABLE FOR MEASURING

- Filter Resistance
- Air Velocity
- Furnace Drafts
- Static Pressures
- Gas Pressures
- Checking — Flow meters, control equipment, automatic valves, gas-air ratio controls, etc.

The exclusive "Magnetic Link" is a Dwyer Development offering extreme sensitivity, low cost and a ruggedness that makes the Magnehelic Gage ideal for portable, as well as stationary, use. Long Life and trouble-free operation is assured. Ranges from 0-1" of water to 0-2 psi.

Request Bulletin No. 250

F. W. Dwyer Mfg. Co.
307 South Western Avenue • Chicago 12, Illinois

If you write maker identify as IEN - 12553

TO MAKE AND INSTALL V-BELTS IN MINUTES WITH BRAMMER

You can measure, couple, and install Brammer "V" Link Belting in minutes without dismantling, fuss, or special skill. Slashes down-time. Adjusts simply.

NEW IMPROVED BRAMMER BELTS GIVE YOU THESE NEW ADVANTAGES

NEW PRE-STRETCHING — NEW BRAMMER TOOL
NEW SIZE-IDENTIFICATION — NEW IMPROVED COMPOUND
NEW PERMALIFE RIVET — NEW GREEN FOR NEOPRENE

WRITE TODAY FOR SAMPLE, CATALOG!

BRAMMER CORPORATION
684 Broadway
New York, N.Y.

If you write maker identify as IEN - 12554

Light where you need it—and in a jiffy

LUFKIN

MITI-MITE Magnetic Base Portable "Handi-Lites"

Above, below, inside, outside — on tools, machinery, and work — the Handi-Lite has hundreds of uses in every shop. Permanent magnetic base attaches instantly to any ferrous surface, round or flat. Double swivel arms and reflector spot the light exactly where you need it.

Where do you need light? A Handi-Lite will provide it there and in dozens of other spots in a jiffy.

Ask your distributor for a demonstration or write today to Dept. IEN for free illustrated booklet.

STANDARD No. 200 Up to 40 Watt Bulbs
HEAVY DUTY No. 250 Up to 100 Watt Bulbs.

BUY LUFKIN
TAPES • RULES • PRECISION TOOLS
FROM YOUR DISTRIBUTOR
THE LUFKIN RULE CO., SAGINAW, MICHIGAN
132-138 Lafayette St., New York City • Barrie, Ontario

280

If you write maker identify as IEN - 12555

free booklet!

for product designers tells how you can use MASONITE PRESDWOOD

Here's the answer to many of your design problems. Tells you how to improve the design of old products ...gives you idea starters for new products...by incorporating Masonite Presdwood.®

These strong, durable, grainless all-wood hardboard panels have 28 distinct advantages—now used in furniture, toys, autos, trains, hundreds of other items. Easy to fabricate. Take beautiful finishes. 44 types and thicknesses to choose from.

Get the whole story in this 20-page illustrated booklet. *Write today!*

BETTER HARDBOARDS FOR BETTER PRODUCTS

MASONITE® CORPORATION
DEPT. IEN-11, BOX 777, CHICAGO 90, ILL.

"Masonite" signifies that Masonite Corporation is the source of the product

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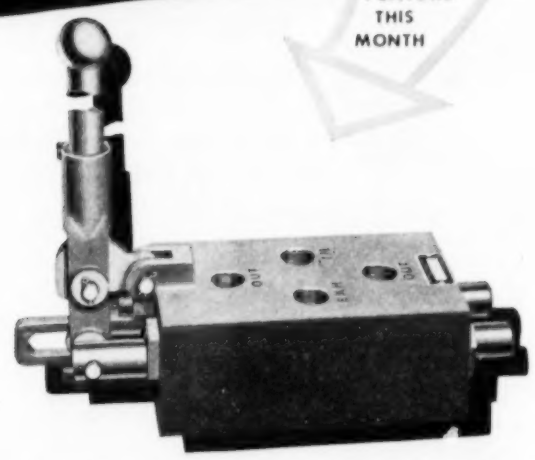
If you write maker identify as IEN - 12556

Quick-As-Wink AIR AND HYDRAULIC Control Valves

FEATURE THIS MONTH

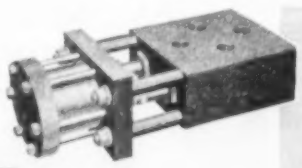


Lever Operated Hydraulic Valves

For line pressures up to 5000 psi

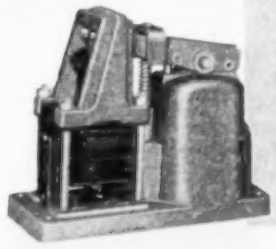
● Unsurpassed for efficient trouble-free service controlling single or double acting hydraulic cylinders and other important high pressure hydraulic circuits. Positive, fast acting. All parts are in pressure balance, eliminating any tendency to creep or crawl. Machined steel housings, with chrome plated and polished stainless steel plungers. Self sealing U-packers. Metal valving rings take the impingement of the liquid, minimizing wear on the packings. ½" to 1½" sizes. Also available in pilot operated designs; sizes to 4". Write for details.

also the following



PILOT CYLINDER OPERATED HYDRAULIC VALVES

Two position valves 1½" to 4" sizes for line pressures from 1000 to 5000 psi. Valve is placed close to the work and operated from a central control point with an easy to handle air valve avoiding operator fatigue.



SOLENOID OPERATED AIR VALVES

Widely used for controlling single and double acting air cylinders, clutch and brake controls, etc. Solenoid is directly connected to valve operating mechanisms. ⅜" to 1½" sizes. 2-way, 3-way and 4-way actions.

For Fully Descriptive Data Sheets Write

C. B. HUNT & SON, Inc.

Hand, Foot, Lever, Cam, Pilot, Diaphragm and Solenoid Control Valves

2033 EAST PERSHING STREET • SALEM, OHIO

If you write maker identify as IEN - 12558

TRUCK . . Engine driven fork lift rates 2 ton, has hydraulic coupling

Source: MOBILIFT CORPORATION
407-11 S. W. 13th Ave., Portland 5, Oregon

No gears to shift

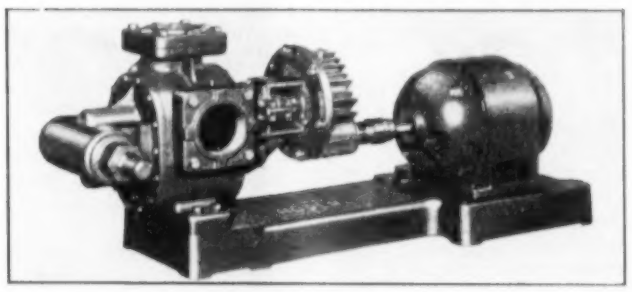
Gyrol fluid coupling the company's multiple-disc oil immersed clutch, and a constant mesh transmission and differential connect the drive wheels on this new Type D-424 truck to its 65-hp. Chrysler gasoline engine. The operator selects forward or reverse by moving one lever. He selects a high range at 11 mph. or a low range at 5¾ mph. by moving a second lever. There is no clutch pedal or gears to shift. The operator rides in seated position back of the steering wheel with its ball bearing nut and worm type mechanism.

The fork carriage is mounted on ball bearing telescoping channel uprights for vertical movement by hydraulic power. Standard mast height is 83 in. with lift height of 108 inches. Wheelbase measures 48 in. and overall length is 82½ in. without the forks. Overall width is 39 inches. The truck will turn in 69½-in. intersecting aisles. The one-piece hood, over the engine compartment, is hinged on the rear counter-weight for quick access to the engine. The removable floor and toe boards are in sections.

If you write maker identify as IEN - 12559

PUMP . . Motor driven gear design for liquids from gasoline to molasses

Source: GEO. D. ROPER CORP.
303 Blackhawk Park, Rockford, Ill.



Specifications in Bulletin 21

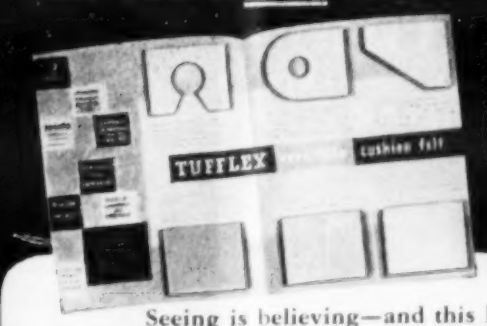
This new pump and its driving motor are mounted on a cast iron base and are connected through a geared head. The head permits setup for a selected speed and changeover to another in the field. The head gears operate in oil. The shafts are carried on anti-friction bearings. The pump can be installed indoors or outside to handle a wide range of non-corrosive liquids at pressure to 60 pounds.

Two sizes rate 125 and 200 gpm. and are equipped with 7½ and 10-hp. motors. Pipe connections are 3 and 4 inches. Pump rotation is 360 rpm., in standard construction, based on an 1,800-rpm. motor. Base dimensions are about 44 and 51 in. in length by 18 and 20 in. in width. The pump is designated Fig. 3600 MAHBVR.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12560

This TUFFLEX sample kit MAY SOLVE YOUR PROBLEM



Seeing is believing—and this kit, containing actual samples of Tufflex may point the way to new product improvements and cost-saving for you. Tufflex is the amazing felted cellulose fiber that's fleecy, soft and tough at the same time. Tufflex resists heavy impact blows—die-cuts with clean edges—insulates—absorbs sound. Its wonderful flexibility suits it to a wide variety of uses. Send now for your free Tufflex sample kit and full information. Wood Conversion Company, Dept. 126-113, First National Bank Building, St. Paul 1, Minnesota.

Keep Your Eyes On . . . **TUFFLEX***

Guaranteed by Good Housekeeping

Cellulose Cushion Padding

*REG. U.S. PAT. OFF.

If you write maker identify as IEN - 12561

BARBER COLMAN

Impressor

for quick, on-the-spot hardness testing of non-ferrous metals and plastics

Simple to operate . . . gives an instant, dependable measure of hardness. Operates on principle of forcing a spring-loaded indenter into the surface with the amount of penetration registering on a dial indicator. Can be used in any position . . . tamperproof . . . compact . . . rugged, yet weighs only 12 oz. Thousands used by industry.

Write today for complete details.

BARBER-COLMAN COMPANY, Dept. K, 1216 Rock St., ROCKFORD, Illinois

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If you write maker identify as IEN - 12562

ELIMINATE WIRES

through use of

DU PONT CONDUCTIVE COATINGS

Easily and rapidly applied by spray, brush, dip, stencil to metals and non-conductors, they give a conductive surface of low resistance. One troy ounce covers about 3 sq. ft. Use them in printed circuits for radios, amplifiers, switchboards, meters; for capacitors and couplings; for static shielding to replace foils and cans; for resistors and solder seals. Save hours of time, $$$$ of cost! For more information, send for Bulletin CP-2-1247. E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Dept., Wilmington 98, Delaware.

DU PONT ELECTROCHEMICALS

DU PONT

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

If you write maker identify as IEN - 12563

Power to sink holes deep in tough woods—Plus power to *back out!*

Ideal for heavy, wet or sappy timbers

$49.95

Drill inch-diameter holes *deep* in woods where bits usually stick tight—creosote planking, sappy or wet timbers. Then—a flick of the reverse switch and Cummins 202 spins *itself* out! Ends straining and hand turning to remove bits. Ends costly delays! Double-coil, dynamically balanced motor provides big reserve of power for full-speed drilling up to ½-inch in steel, 1 inch in wood. Really bargain-priced for its quality!

Cummins

Since 1927

CUMMINS-CHICAGO CORP.
4740 N. Ravenswood Avenue, Chicago 40, Illinois
334 Lauder Avenue, Toronto 10, Canada

If you write maker identify as IEN - 12564

IF IT'S GEARING YOU'RE HEARING ..TRY CELORON

A Celoron gear is a silent gear. It eliminates metal-to-metal contact . . . builds silence into your products.

There is a difference in plastic gear stock. Celoron is a special canvas-based laminate made by C-D-F, sold in 39" x 46" sheets, with thicknesses up to 9". Celoron is easily cut into gears of high tooth strength, excellent impact strength and resiliency. These gears require little lubrication and are unaffected by high heat or moisture.

Write for Celoron specifications and gear cutting information. If you wish a sample, tell us about your application.

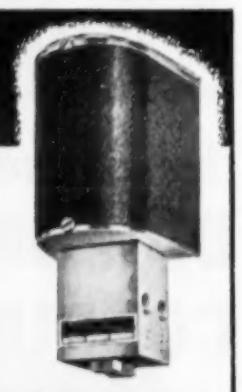
THE NAME TO REMEMBER... CELORON GEAR STOCK

Continental-Diamond Fibre Company

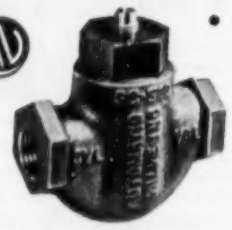
NEWARK 21, DELAWARE

If you write maker identify as IEN - 12565

Solenoid VALVES



PILOT VALVES
3-WAY 4-WAY
For operating Master Valves and Small Cylinders



***Speed Control* VALVE**
Controls speed of Air and Hydraulic Cylinders

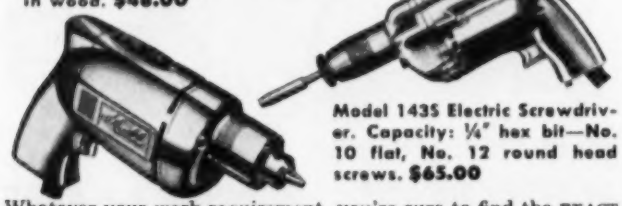
***3-Way and 4-Way* VALVES**
Pilot Operated
Sizes ¼" — ⅜" ½" and ¾"
Write for Bulletin

AUTOMATIC VALVE CO.
37421 GRAND RIVER AVE., FARMINGTON, MICH.

If you write maker identify as IEN - 12566

lightweight powerful Mall production boosters

Model 146 Electric Drill. Seven speeds. Capacity: ¼" in steel, ½" in wood. $46.00



Model 1435 Electric Screwdriver. Capacity: ¼" hex bit—No. 10 flat, No. 12 round head screws. $65.00

Whatever your work requirement, you're sure to find the EXACT MALL TOOLS to BOOST PRODUCTION and DOWN COSTS. The extensive MALL line includes every type and size portable electric tool imaginable to meet all kinds of production and maintenance assignments. The name MALL on any tool you buy is your assurance of lasting dependability and top performance . . . they're built by experts for experts. Mail this coupon today.

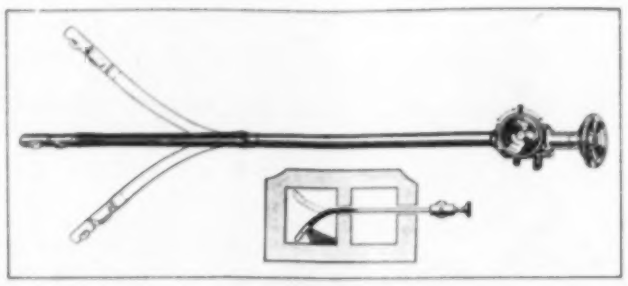
40 Factory-Owned Service Warehouses, Coast-to-Coast, To Give You Fast, Dependable Service.

MALL TOOL COMPANY
7782 S. Chicago Ave., Chicago 19, Illinois
Send me all the facts about MALL
☐ Screwdrivers ☐ Drills
*Name*_____
*Company*_____
*Address*_____
MU-46

If you write maker identify as IEN - 12567

TESTING . . Illuminated instrument to inspect work interiors for flaws

Source: EDER INSTRUMENT CO.
2291-95 N. Clybourne, Chicago 14, Ill.



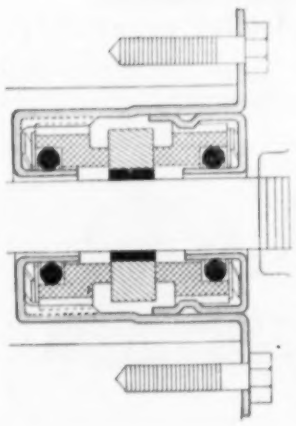
Reaches blind areas

Inspectroscope is a new tubular instrument that will pass through a ½-in. opening. It is made with a rigid or flexible extension tube, fitted with a lamp and lenses, to reflect an observed surface area back to the user. The rigid design provides a view at right angles to the length of the tube. Usable length is 26 inches. The flexible design has a 27-in. usable length. It can be supplied plain or with a control wheel by which the tube is curved to observe reverse surfaces and hidden areas. List price ranges from $385 to $695.

If you write maker identify as IEN - 12568

SEALING . . Self-contained unit prevents axial leakage along a shaft

Source: CARTRISEAL CORPORATION
3513-17 W. Touhy Ave., Lincolnwood 45, Ill.



Custom engineered

Illustrated is new double face assembly of the self-contained cartridge seal, previously described IEN-2626-52. The new unit employs a central rotating member that is secured to a shaft to turn with it and two stationary members that bear against the lapped faces of the rotor in opposed arrangement. The stationary members are sealed with O-rings and are backed by flat springs inside the pressed steel housing of the seal assembly.

The flanged design, shown in the illustration, and a press-in design are available. The seal is supplied for specified shaft sizes, speeds, pressures and liquids or gases to be sealed against leakage. The company has prepared a 6-page folder showing section illustrations of various seal designs. It describes the construction in detail.

If you write maker identify as IEN - 12569

Sicon is a silicone-base paint that retains its initial fresh appearance in service on hot surfaces such as engine exhaust manifolds. It is black in color, rated to withstand heat to 1,000 deg. F. It is made by Midland Industrial Finishes Co., 1948 E. Water St., Waukegan, Ill.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12570

IMPROVED QUALITY—LOWER COST

TURNABOUT®
ADJUST • A • FORK
HYDRAULIC LIFT TRUCK
with interchangeable forks

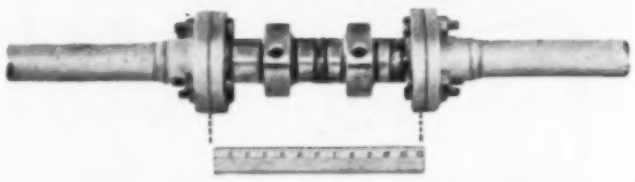
Improved design . . . mass production techniques, give you a quality product, **properly priced.** Proven superior performance . . . extra strength . . . highly maneuverable . . . easy operation. Resinoid type casters and aluminum leader wheels at no extra cost.

Easily interchangeable forks available in five standard lengths. Adjustable on truck frame to provide 25" or 27" width.

Unconditionally guaranteed for one year . Write for descriptive bulletin

RACK HYDRAULIC EQUIPMENT CORPORATION
CONNELLSVILLE, PENNSYLVANIA
AGENTS IN PRINCIPAL CITIES UNITED STATES, CANADA, EUROPE

If you write maker identify as IEN - 12571



MINIATURE VENTURI TUBE SOLVES UNUSUAL PROBLEM

An important chemical producer looked everywhere . . . couldn't find a ready-made device to measure accurately a corrosive liquid's low flow of 159 lb./hr. So he asked the advice of Simplex.

Simplex tailor-made a welded, corrosion-resisting stainless steel Venturi tube. This Venturi tube probably is the smallest in industrial process use. Main diameter is only 0.375"; throat diameter only .105". Machining to .0005" provides specified accuracy.

Consult Simplex on your special measuring problems, large or small. *Write to* Simplex Valve & Meter Company, 6717 Upland Street, Philadelphia 42, Pa.

SIMPLEX®
VALVE AND METER COMPANY

If you write maker identify as IEN - 12572

"HOLD EVERYTHING"

with this strong, open-side, all-purpose handy vise.

Takes work from 3 sides
Range from 2⅜" to 8⅝"
Positive non-slip grip

Ideal for valves, manifold fittings and all other hard-to-hold items.

● Heavy, one-piece malleable cast-iron body is virtually indestructible. Takes work from 3 sides. Four easily replaceable dies in lower jaw provide positive grip to hold work safely in balanced non-slipping position. Easily installed non-scarring soft jaws also available. Vise screw made of toughest steel has coarse Acme thread for rapid adjustment. Counterbalanced handle, mounted at efficient arm height, can be quickly extended for extra leverage. Wide range replaces three ordinary vises. Far safer and faster than chain tongs. For folder and prices address . . . .

BAKER OIL TOOLS, INC.
BOX 2274 TERMINAL ANNEX, LOS ANGELES 54, CALIFORNIA

If you write maker identify as IEN - 12573

OWN YOUR OWN HEAT-TREATING PLANT

low in cost
high in productivity
compact in design

here it is in a single unit

Features include:

1. *Heating Furnace with range of 1000° to 2400° F. automatically controlled (12" wide x 10" high x 18" deep).*
2. *Tempering or Drawing Oven is recirculating type. Work is constantly bathed with evenly distributed high velocity and held to constant temperature by automatic control. Alloy steel lined with perforated shelf, has range of 250° to 1100° F. (21" wide x 10" high x 18" deep).*
3. *Furnace and Oven doors equipped with foot treadles.*
4. *Two Quench Tanks for oil and water. By means of double wall construction, oil tank is entirely surrounded by water for cooling oil, thus producing more uniform quenching.*
5. *Automatic electronic type controls.*
6. *Shipped ready to install by simply connecting gas and electric power line.*

A complete line of WALTZ standard or special heat-treating furnaces, using all types of fuels are built to suit your requirements. Write Dept. A for comprehensive illustrated bulletins.

Waltz FURNACE COMPANY
SYMMES STREET • CINCINNATI, OHIO

If you write maker identify as IEN - 12574

SAM SPINNER SAYS:

Throughout industry AT&M centrifugals are proving how they can cut the time and reduce the expenses of older processing methods. AT&M's free booklet, "Centrifugal Force," tells you how faster, better, lower cost results are assured in such processes as: *separation . . . extraction . . . impregnation . . . coating . . . precipitation . . . draining . . . dehydration . . . thickening . . . sedimentation . . . filtration.* This 8-page, illustrated booklet may show you how to solve your own processing problems — and save time, space and money. Write for your free copy of "Centrifugal Force" to American Tool & Machine Company, 1417 Hyde Park Ave., Boston 36, Mass.

SAVE TIME, SPACE AND COSTS WITH

A.T. *and* M.

CENTRIFUGING

If you write maker identify as IEN - 12575

Clean, degrease small parts *IN 5 MINUTES!*

Twice as fast as hand dipping. Get high-speed cleaning and degreasing, with a LIGHTNIN Mixer in any tank or container.

Mixer makes solvent flow rapidly over and around small parts, castings, etc. Cleans intricate parts thoroughly in 5 minutes. Easily installed in your tank—we show you how. Fully guaranteed. *For details, send for Catalog B-103.*

Mix fluids in a few seconds in any tank or container, with a LIGHTNIN Portable Mixer. Cheaper, faster than hand stirring. Mix paint, glaze, chemicals . . . dissolve powders, crystals . . . blend food products, flavors, syrups—do hundreds of mixing jobs quickly and thoroughly. Fully guaranteed. Thousands in use. Thirty models ⅛ to 3 HP. *Send for Catalog B-75.*

FOR BIG MIXING JOBS

LIGHTNIN turbine and paddle mixers for open or closed tanks. Sizes 1 to 500 HP. Send for Catalog B-102.

LIGHTNIN side entering propeller mixers. Sizes 1 to 25 HP. Send for Catalog B-104.

MIXING EQUIPMENT CO., Inc.
124 Mt. Read Blvd., Rochester 11, N. Y.
In Canada: William & J. G. Greey, Ltd., Toronto 1, Ont.
MIXCO fluid mixing specialists

If you write maker identify as IEN - 12577

BEARING . . Single row ball design, double sealed, ½ to 1¼ in. bore

Source: NICE BALL BEARING CO.
2940-44 Hunting Park Ave., Philadelphia 40, Pa.

Bulletin 149A

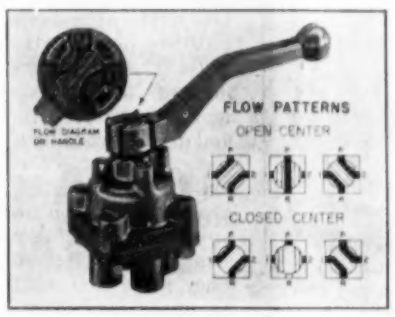
Series 7500 and **7600** are new designs in the company's line of precision ball bearings. The latter is characterized by its extended inner race and two locking set screws. An oil resistant synthetic rubber coated fabric ring rides in a groove in the inner race to retain lubricant and keep dirt out. The ring is held in a metal retainer that is recessed into the outer race where it is held by a press fit. The bearing is available with one seal or plain to specification.

Bore ranges from ½ to 1¼ inches. Outside diameter is 1¾ to 2 3/16 inches. Tolerance is plus 0.0000 and minus 0.0005 to 0.0006 inch. The outer race is ⅝ to ¾ in. in width. The standard inner race measures ¾ to ⅞ inch. The extended inner race is 1.092 to 1.417 inches. Radial load capacity, based on 50 rpm., is 1,150 to 2,550 pounds. Thrust load is to 340 to 740 pounds.

If you write maker identify as IEN - 12578

VALVE . . Rotary hydraulic design, 2, 3, 4-way, pressure to 1,500 pounds

Source: BARKSDALE VALVES
1564 E. Slauson Ave., Los Angeles 11, Calif.



Flow diagram on handle

New series of operating valves, for 1,500-lb. service, has been added to the 3,000 and 6,000-lb. design, previously described IEN-4049-51. The new valves employ the Shear-Seal construction in which a steel disc is enclosed in a bronze body and is backed by bearing balls so its lapped sealing face rides in contact with the body ports. The ports are fitted with spring-backed rings carrying O-ring packings. Combined action of the backing springs and the hydraulic pressure holds the rings in contact with the disc in leakproof assembly.

Straight porting, in the 4-way design, permits manifolding with standard types of pipe fittings in the pressure and return ports. Piping installed vertically can serve as the operating stand or the valve can be bracket or panel mounted. Position stops and detents are enclosed. Spring centering and positive locking devices can be added. Valve sizes range from ¼ to 1 inch.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12579

where **HEAT** eats metal
paint with **THERMALITE**
and protect up to **1000°**

NEW SILICONE HIGH-HEAT ALUMINUM PAINT FUSES TO METAL . . . PROTECTS AGAINST RUST AND CORROSION

A revolutionary paint development, Thermalite fuses to metal, will not discolor, blister, burn or flake off—even at 1000° heat! Protects against rust, corrosion, chemical fumes. Formulated to stand severe weather exposure as well as high heat.

Ordinary aluminum paints flake off under high heat because the resins burn out. Thermalite's film-forming solids consist of "silicones"—the wonder resin that defies heat, fuses to metal, producing a tough, silver-bright, tightly-adhering coating.

In hundreds of applications industrial users have proved that Thermalite solves their problem of obtaining a paint coating that withstands 400° to 1000° heat. Two types available, one for interior, the other for exterior metal surfaces.

FREE! . . . to industrial paint users. Your letterhead request brings complete information on Thermalite for interior or exterior use. Write today!

THE TROPICAL PAINT AND OIL CO. SINCE 1883
1126-1296 W. 70th Street, Cleveland 2, Ohio

If you write maker identify as IEN - 12580

HERE'S COMPLETE INFORMATION on the new G-E wiring devices that eliminate binding screws

THIS FOLDER TELLS YOU HOW . . .

You can now make electrical connections by simply pushing straight, stripped wires into holes in the new G-E Pressure-lock" terminals. These terminals are featured in the new GE3800-line and MONOLOCK line of wiring devices—outlets, switches, and lampholders. All are listed by Underwriters' Laboratories, Inc. Write Section D114-1142, Construction Materials Division, General Electric Company, Bridgeport 2, Connecticut.

You can put your confidence in—

GENERAL ELECTRIC

If you write maker identify as IEN - 12581

LOOK FOR THE MARK OF PRECISION **Starrett®** ON EVERY PIECE

Save time. Save money. Save valuable man and machine hours. Use Starrett precision ground Die and Flat stock for all precision parts, pieces, punches, dies and special tools having two flat, parallel sides. Just select the right type and size of flat stock from the complete Starrett line . . . lay it out . . . and saw it out. (For best cutting, use Starrett Band Saws.)

Keep a supply of frequently used sizes in the tool crib . . . or call your Industrial Distributor for prompt, dependable, quality service.

Each piece is marked for type and size and individually packaged in a protective envelope showing chemical analysis, hardening and tempering information.

WRITE FOR NEW FOLDER AND WALL CHART

listing the 295 sizes available and giving hardening formulas for the four types. Address Dept. N.

Starrett
THE L. S. STARRETT COMPANY
SINCE 1880 WORLD'S GREATEST TOOLMAKERS
Buy THROUGH YOUR INDUSTRIAL DISTRIBUTOR
Prompt delivery Dependable service Quality products

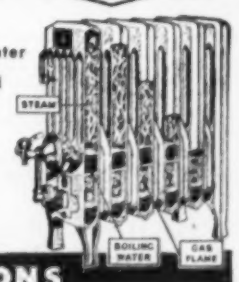
If you write maker identify as IEN - 12582

NO NEED TO WORK IN AN OVERCOAT WITH A CLOW GASTEAM RADIATOR IN YOUR OFFICE

Steam Heat . . . where you want it . . . when you want it.

Hard to heat offices within a cold, drafty plant, warehouse or plant out-building become warm and comfortable with an individual Clow Gas Steam Radiator. Economical, because they make their own steam heat with gas. No hot water pipes, boiler or furnace room to depend upon. Available in 35 sizes, vented and unvented, to meet every heating need.

SEND FOR COMPLETE INFORMATION, INCLUDING OPERATING PRINCIPLES, INSTALLATION DATA, TYPICAL INSTALLATIONS AND PRICES.



Available for City, Butane or Propane Gas

JAMES B. CLOW & SONS
201-299 N. Talman Ave., Chicago 80, Ill.

If you write maker identify as **IEN - 12583**

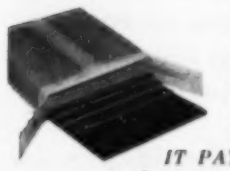
ISOMODE* PADS...

money-saving "shoes" for busy machine feet!

Now you can successfully isolate vibration, muffle plant noise, and cut down maintenance bills by using low-cost Isomode Pads.

Made of DuPont Neoprene, these pads resist oil and water, actually last for years. In thousands of installations, they have already proved their ability to swallow up troublesome machine shock and vibration. Even that of giant punch presses.

Installation is quick, easy. And there's no waste – you use only as much as you need. Simply cut an Isomode Pad to size and install under equipment. Results: Machines stay put without bolting, floors and building remain undamaged, working conditions are improved, and machine maintenance is cut.



Try a package of Isomode Pads and see. Write for full details and price list. **Trade Mark*

IT PAYS TO KEEP A PACKAGE ON HAND

THE MB MANUFACTURING COMPANY, INC
1064 State Street, New Haven 11, Conn.

If you write maker identify as **IEN - 12584**

THE BIG ONE

This Pilot Light Assembly was first made to accommodate the *S-11 lamp* and was intended for use in the cabs of great diesel locomotives.

THE LITTLE ONE

The miniaturization program on defense products required the development of this *sub-miniature* light. It is used on communication equipment and aircraft. Midget flanged base bulbs to fit are rated 1.3, 6, 12, and 28 volts.

Dialco HAS THE COMPLETE LINE of INDICATOR and PANEL LIGHTS

Samples to suit your own special conditions and requirements will be sent promptly and **without cost**. Just outline your needs. Let our engineering department assist in selecting the **right lamp** and the **best pilot light** for YOU.

Write for the Dialco HANDBOOK of PILOT LIGHTS

Foremost Manufacturer of Pilot Lights

DIALIGHT CORPORATION
60 STEWART AVENUE, BROOKLYN 37, N. Y. HYACINTH 7-7600

If you write maker identify as **IEN - 12586**

GAGE . . Reads work deviation from a master in height or diameter

Source: GEORGE SCHERR COMPANY
202 Lafayette St., New York 12, N. Y.

Made in Germany

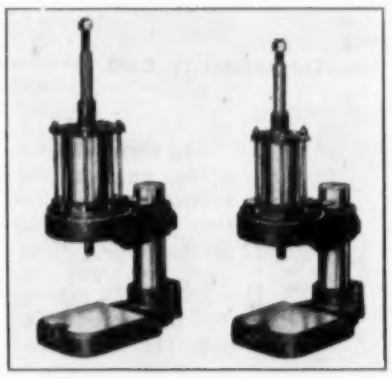
Opti-Comparitol trade names a new gage, employing a beam of light from a low voltage lamp, with mirrors and a translucent screen to read deviation from an initial master or gage block setup. The gage reads to plus or minus 0.00250 in. in 0.0005 in. divisions in any setup dimension to a maximum work diameter of 6 inches.

Anvils, contact tips, back stops are available for specified work. No operator skill is required, after the setup has been made. Deviation shows on the screen against a brightly illuminated background. Oversize work shows green and undersize pieces show red.

If you write maker identify as **IEN - 12587**

PRESS . . Pneumatic bench design, 3 or 4 inch bore, stroke to 36 inches

Source: MEAD SPECIALTIES CO.
4112-16 N. Knox Ave., Dept. CP-38, Chicago 41, Ill.



Double acting assemblies

Single and double acting designs are available in this new bench type adjustable column pneumatic press. The single-acting units have a maximum stroke of 4 in. and are returned by a spring below the piston. The double acting assemblies can be specified for any stroke to 36 inches. They are fitted with an upper ram extension and stop nuts on the threaded stem to limit the stroke. A bracket can be added so the ram cannot rotate. The cylinder is flange mounted on the column bracket as shown in the illustration.

If you write maker identify as **IEN - 12588**

Lamination stampings are subject to order in any quantity and design in the new contract service that has been set up by Magnetics Inc., Box 308-A, Butler, Pa. The company will design and make the required progressive press tools to produce nickel-iron or electrical silicon laminations in any quantity. Design service is available without charge for the company's customers.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 12589**

The Portable MORSE ROTATOR

CUTS COSTS OF:
- MIXING
- BLENDING
- TUMBLING
- CLEANSING

MODEL 500

A powerful, compact motorized unit that will cut costs of mixing, tumbling, cleaning, etc. Scientifically engineered for smooth, safe revolving at speeds of 10, 20 or 40 RPM. Can be loaded by ONE MAN and is easily moved. The power drive has a ¾" dia. shaft and is equipped with self-aligning bearings. Four 4" dia. Neoprene drive wheels with idler attachments are adjustable to take from 1 to 55 gal. drums or cylindrical containers. Wt. before crating 137 lbs. Furnished with motor, gear reduction unit and tipping lever. *Write for complete information.*

MORSE MANUFACTURING CO. INC.
755 West Manlius St. East Syracuse, N. Y.

If you write maker identify as **IEN - 12590**

Dependable POWER

Sarkes Tarzian

"Centre-Kooled"®
PATENTS NO. 2618692 & 2620384

SELENIUM RECTIFIERS

Fourteen cell sizes . . . one million combinations
What's yours? Write, wire or phone

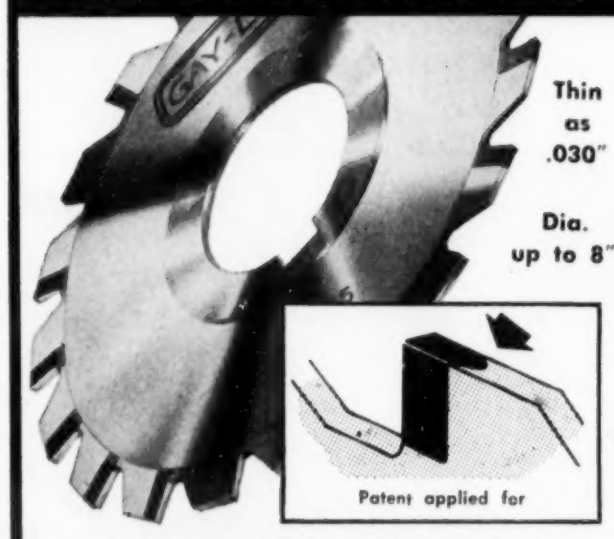
Sarkes Tarzian, Inc., Rectifier Division, Dept. B-6, 415 N. College Ave. Bloomington, Indiana
In Canada: 50 St. Clair Ave. W., Toronto

If you write maker identify as **IEN - 12591**

CARBIDE TIPPED

THINSAW

FOR EVERY INDUSTRY



CIRCULAR SEAT GIVES GREATER BRAZE AREA—BETTER TIP SUPPORT

This exclusive Gay-Lee carbide tipped saw design has completely changed the slitting, slotting and sawing picture. Now carbide tips stay in and run-out is eliminated. You get the full benefit of carbide's faster cutting ability.

WHAT IS YOUR SAW PROBLEM?

We are specialists in carbide saw design and manufacture. We have solved some tough jobs and some big ones. Can we help you?

Hub Saw Thinsaw Small Saw

Carbide teeth profile ground on Special Order

WRITE FOR DATA

GAY-LEE COMPANY
CLAWSON • MICHIGAN

If you write maker identify as IEN - 12593

Every feature of tomorrow

IN TODAY'S NEWEST COOLERS

- top — Polished stainless steel or cast iron porcelain enamel depending on type
- cabinet — Bonderized steel, spot welded and finished in metallic gray
- projector — Famous Halsey Taylor Mound-Building type with automatic stream control for uniform pressure
- storage tank — Varying capacities, pressure-tested
- insulation — Full 2½" approved granulated cork
- cooling coil — Double wall construction or patented direct-flo, according to type desired
- thermostat — Temperature controlled by thermostat in direct contact with outlet water
- condenser — Hermetically sealed, air-cooled or water-cooled, depending on type selected

THE HALSEY TAYLOR CO., WARREN, O.

Halsey Taylor

COOLER FOUNTAINS

F-28

If you write maker identify as IEN - 12594

The Simplest Way to

SOLVE SCALE PROBLEMS

PATS. APPLIED FOR

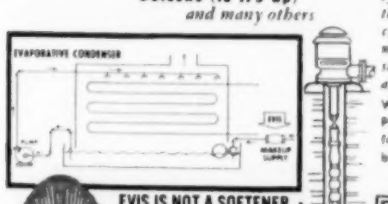
Proven Uses Include
ALL PIPING SYSTEMS
CONDENSERS (most types)
COOLING TOWERS
ENGINES & COMPRESSORS
CUBE & FLAKE ICE MAKERS
BOILERS (to 175 wp)
and many others

"but but yet!"

EVIS Water Conditioners are helping industry conquer its costly scale problems. Plant equipment is made to operate at higher efficiency. Maintenance costs are profitably lowered and shut-downs for periodic clean-ups are often entirely eliminated. The EVIS units are Specially Processed to impart a continuous catalytic action on water-solids flowing through it. This action alters physical behavior sufficiently to inhibit most scale formations. Many thousands of EVIS Water Conditioners are now in service.

Write for further information or ask your Plumbing Supply, Air-Conditioning-Refrigeration or Industrial Equipment Jobber.

SIZES | ¾" thru 2" screwed; 2" thru 12" flanged



EVIS IS NOT A SOFTENER

Flow Line Type Available for Deep Well Pumps

SOLD ON 90-DAY MONEY-BACK GUARANTEE

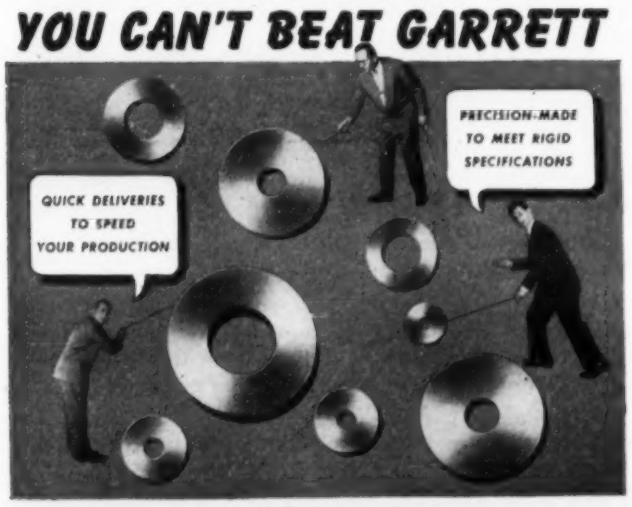
EVIS MANUFACTURING CO. 40 Boardman Place, San Francisco 3, California

FRANCHISED REGIONAL DISTRIBUTORS

WHITTIER (Calif.) REN-EVIS COMPANY 11146 E. Whittier, OX 9-2211
SAN BERNARDINO (Calif.) KNUPP & WRIGHT 220 E. 40th St., SB 8-7830
SAN FRANCISCO NORTH-EVIS AGENCY 74 Sherman Ave., MI 7-1822
RENO WATER CONDITIONED SALES CORP. Western Auto Life Bldg., 2-5838
SEATTLE EVIS-NORTHWEST 2417 E. Marginal Way, EL 6116
CHICAGO EVIS-GREAT LAKES COMPANY 201 N. Wabash Ave., ST 2-5948
OMAHA EVIS-MIDWEST, INC. 1108 Dodge St., JA 7044
DALLAS EVIS-SOUTHWEST CO. 8817 Chevy Chase, EM 0117
ATLANTA EVIS-SOUTHEAST CO. 715 Spring St., N.W., VE 0241
PHILADELPHIA EVIS-MIDEAST CO. 4 E. Richmond St., SE 4-0855
ALBANY (New York) EVIS-NORTHEAST CO. 87 Reddy Dr., UN 9-7921
EXCLUSIVE MARINE DIST. MORAN-EVIS CO., SAN FRANCISCO 420 Market St., DO 2-4363

If you write maker identify as IEN - 12595

YOU CAN'T BEAT GARRETT



FLAT WASHERS

Garrett gives you fast delivery on the largest line of flat washers available anywhere. Precision-made to the most exacting civilian or Armed Forces specifications. Here are just a few of the many Garrett flat washers available:

Washers to SAE, USS and ASA dimensions:

AN 945	AN 961	NAS 143
AN 955	AN 970	BEB X Series
AN 960	AN 975	BEC X Series

ALL READY FOR PROMPT DELIVERY

OTHER PRODUCTS MANUFACTURED BY GARRETT: SPRING LOCKWASHERS, STAMPINGS, HOSE CLAMPS

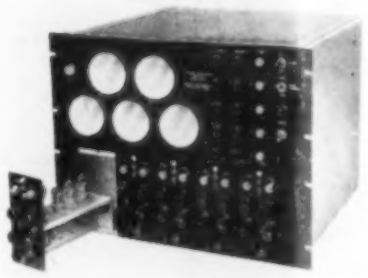
Garrett OF PENNSYLVANIA

GEORGE K. GARRETT COMPANY, INC. PHILA. 34, PA.

If you write maker identify as IEN - 12596

TESTING . . Oscilloscope with five channels for vibration study

Source: FRANKLIN ELECTRONICS INC.
413-17 W. Pike St., Philadelphia 40, Pa.



For laboratory and plant

Push-pull amplifiers mount in the face of this new oscilloscope to apply strain gage outputs to five individual cathode ray tubes. The arrangement permits direct comparison of five simultaneous vibrational effects. A neon marker light provides a time base reference. Vibrational frequency can be measured to a frequency of 100,000 cycles with flat response to 50,000 cycles per second.

The amplifiers are identical and can be interchanged or replaced at the front panel. Input connections can be made at the front and rear. The power supply, with its regulated outputs, is enclosed in the housing and is accessible from the rear. The tubes can be photographed on a 35-mm. film.

If you write maker identify as IEN - 12597

TUBE . . Flexible plastic, translucent, for chemicals, solvents

Source: COUSE & BOLTEN CO.
41 Lafayette St., Newark 2, N. J.

Glass smooth inside and out

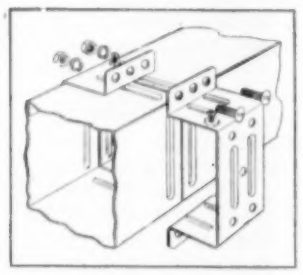
Cobonol trade names a new translucent plastic tube that is available in inside diameter from ⅛ to 2 inches. Corresponding outside diameter ranges from ¼ to 2¼ inches. The plastic remains serviceable from minus 30 to plus 190 deg. F.

It is tasteless, non-toxic, odorless and resistant to aging. It can be steam sterilized, at 20-lb. pressure, for 15 min. or less. The new tube supplements the previous Cobon transparent tube. List is $5.56 to $265.50 per hundred feet.

If you write maker identify as IEN - 12598

ELECTRIC DUCT . . Clamp coupling to join the ends of steel wireway

Source: NATIONAL ELECTRIC PRODUCTS CORP.
140 Stanwix St., Pittsburgh 22, Pa.



Cadmium plated bolts

Two-piece coupling has been added to the company's 4 by 4-in. Wirewa sections. It applies at the ends of the 1, 2 and 5-ft. section lengths where it keys into grooves in the square section and clamps in place. It is made of 16-gage steel and measures 2½ in. in width. Holes in the sides provide for flush wall mounting. A third hole, through the flanges, can be used to connect to a hanger.

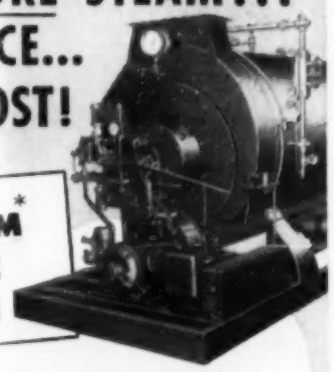
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12599

Produce MORE STEAM... in LESS SPACE... at LOWER COST!

WITH

CYCLOTHERM* CYCLONIC COMBUSTION



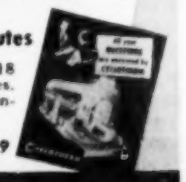
● In thousands of installations, Cyclotherm Steam Generators set new standards for performance and economy. Exclusive Cyclotherm flame control produces 66% more power per sq. ft. of heating surface than competitive type boilers and requires only 3 sq. ft. of heating surface per Boiler Horsepower . . . saving up to ⅓ on installation space.

- Guaranteed 80% efficiency
- Complete on arrival. Only 4 easy connections
- Fully automatic controls
- Full power operation in 15 minutes

Cyclotherm Steam Generators are designed for 18 to 500 h.p., 15 to 200 psi operating pressures. Approved—ASME, Nat'l. Board Standards, Underwriters Laboratories, Inc.

*Reg. trade name

Write for free catalog today. Dept. 29

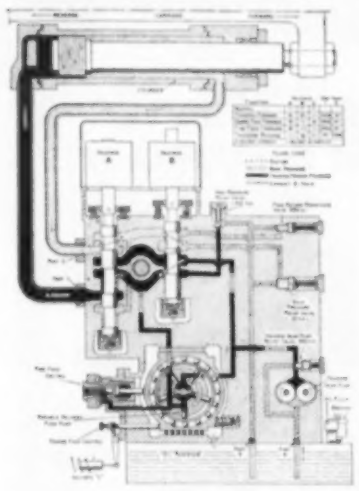


CYCLOTHERM STEAM GENERATORS

CYCLOTHERM DIVISION, UNITED STATES RADIATOR CORP., OSWEGO, NEW YORK

If you write maker identify as IEN - 12600

ANY-FEED Oilgear Power Unit



For machine tool and other straight-line feeds

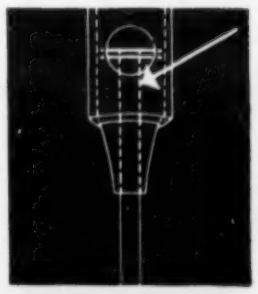
An amazing little fluid power feed pump for practically any machine tool or straight-line feed installation you can think of. It embodies the *Any-Feed* Oilgear Fluid Power unit with a 20:1 range and rapid traverse as high as 265:1 over feed rate. It provides undeviating precision day in and day out once the feed rate is set.

It installs *into* your assembly easily, or mounts nearby or remotely. Yet control of the many possible functions is found in the electric pushbutton station; or partial or completely automatic operation is available. It affords complete operating safety for all action is instantly neutralized in case of accident. All parts are completely and easily accessible. The design is simple; you mount, connect two pipes and control wires. Write for descriptive Bulletin 44200 now while you think of it. THE OILGEAR COMPANY, 1567 West Pierce Street, Milwaukee 4, Wisconsin.

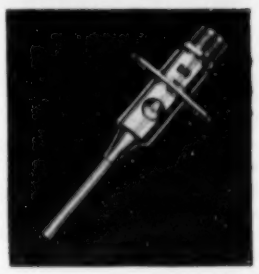
If you write maker identify as IEN - 12601

Tube Talk THE "HOW-TO" COLUMN

PROBLEM:
The B.G. Corporation, makers of B.G. Spark Plugs, had trouble locating tubing with very close I.D. tolerance and good fabrication properties for electrodes of jet engine igniters that would withstand corrosive action of gases at 1800°F. Most materials corroded or eroded rapidly.



SOLUTION:
Superior Inconel* tubing .196/.200 O.D. x .129/.131 I.D.



RESULTS:
Superior Inconel tubing provides better resistance to erosion and corrosion than any other materials used, has low thermal expansion so that it doesn't crack ceramic insulation, is easy to flare, ream and mill. It is not adversely affected by hydrogen brazing.

Suggestion—Write for information and literature today.

SUPERIOR TUBE COMPANY

2016 Germantown Ave., Norristown, Pa.

*Reg. U.S. Trade mark—The International Nickel Company.

If you write maker identify as IEN - 12602

Send for a sample of G-8 the new grade of laminated plastics

SYNTHANE is now producing G-8—a new, lower-cost glass mat melamine laminate for power and lighting applications.

In addition to combining high fire-and-arc-resistance with excellent mechanical and chemical properties, this new grade of SYNTHANE laminated plastic offers a considerable saving whenever its use is appropriate. G-8 costs less than continuous filament glass-base material—and its dielectric properties are good. Ease in fabrication makes G-8 adaptable to many electrical applications. To learn more about this new material—about its high strength, light weight, low inertia, fire- and corrosion-resistance, and combinations of these properties and a sample for examination—just clip and send the coupon below.

SYNTHANE

Manufacturers of laminated plastics
SHEETS
RODS • TUBES
MOLDED-LAMINATED
MOLDED-MACERATED
FABRICATED PARTS

SYNTHANE CORPORATION
S. River Road, Oaks, Pennsylvania

Gentlemen:
Please send me a sample of new G-8 and complete information on properties.

Name _____
Address _____
City _____ Zone _____ State _____

If you write maker identify as **IEN - 12603**

better paint job with Red Devil Paint Conditioner

Paint pepped up by Red Devil Paint Conditioners goes on more smoothly, and better protects your product. Patented 3-directional motion (22 shakes per second) puts pigment in perfect suspension—quick!

NOT JUST PAINT

Manufacturers of everything from printers' ink to putty use these machines to mix, blend, and rejuvenate all kinds of high-viscosity and low-viscosity mixtures.

If you have hard-to-mix, *or hard-to-keep-mixed blends,* Red Devil can arrange to have test samples agitated at a nearby location.

Various models provide automatically-timed agitation for ¼ pint to 5 gal. cans. Attachments for round and square containers.

Red Devil Catalog No. 21M lists all Red Devil three-way agitators and Red Devil floor maintenance machines. Write Red Devil Tools, 129 Coit Street, Irvington, New Jersey.

Products of 1950 — Red Devil Tools. 129 COIT ST. IRVINGTON 11, N. J. U. S. A.

If you write maker identify as **IEN - 12604**

Drill Hardened Steels without Annealing—

With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon—high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

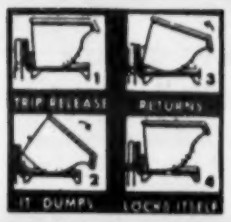
You Harden It—We'll Drill It—With "HARDSTEEL"

BLACK DRILL COMPANY, INC.
1378 East 222nd St. • Cleveland 17, Ohio

Also makers of— BLACK DRILLING UNITS—AUTOMATIC, SELF-CONTAINED—FOR COST-CUTTING PRODUCTION ON ALL MATERIALS *Write for information*

If you write maker identify as **IEN - 12605**

SAVE 50% LABOR-TIME with ROURA Self-Dumping HOPPERS



Only ROURA Has The Exclusive PATENTED Instant Release Handle

Fitting any standard fork or platform lift truck, thousands of ROURA HOPPERS are in constant operation handling wet or dry, hot or cold, bulky materials. Simple to operate—only one man is required for distributing and unloading—quicker and easier.

The ROURA HOPPER dumps, rights and locks itself securely by a simple lift of the patented release handle. Sizes ½ to 2 cu. yds. ROURAS can also be designed for flat trucks and in other sizes to meet specifications—can be equipped with special flanges to permit stacking for storage or future distribution. The ROURA will quickly pay for itself many times over. *Write today for detailed brochure.*

Use Self-Dumping Containers —they pay for themselves

Imitated by Many—Not Equaled by Any

• SIMPLE • SAFE • SPEEDY

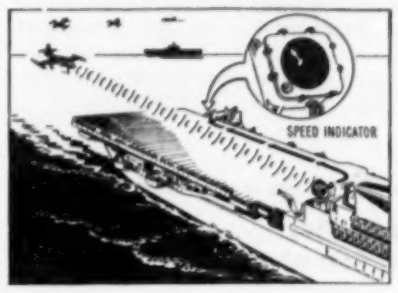
ROURA IRON WORKS, Inc.
1409 Woodland Ave. Detroit 11, Mich.

IDEAS FOR YOU

Items of particular interest in the news other than straight new products, development pointing toward the future, unusual procedure to accomplish a point, suggestions for practical action, each to provide ideas for you.

If you write maker identify as **IEN - 12606**

New radar equipment measures the speed of a jet plane coming in to land on a carrier deck. It provides an indication to the control signalman if the speed is right so he can tell the plane to keep coming or to try again. Radar waves are kept trained on the plane. The "echoes" rebound to the radar antenna to actuate a speed indicator at the signalman's station. Raytheon Mfg. Co., 138 River St., Waltham 54, Mass.



If you write maker identify as **IEN - 12607**

Combustion air is preheated prior to its introduction into a boiler furnace by a new packaged preheater available from Air Preheater Corp., 60 E. 42nd St., Dept. IEN, New York, 17, N. Y. It is known as the Ljungstrom unit. Flue gases are passed over heat accumulating plates carried on a slowly revolving rotor. The plates ride through the gas stream and then through the stream of incoming combustion air where they give back the heat they have picked up. The equipment is available for boilers generating as much as 125,000 lb. of steam per hour on 300-lb. or more pressure.

If you write maker identify as **IEN - 12608**

"Listen my children and you shall hear . .", how much metal is being removed from a work piece being burnished to size. Put on the ear phones connecting to an electronic stethoscope developed by Ted Minor, a methods engineer for Minneapolis-Honeywell Regulator Co., 4456 Wayne Ave., Philadelphia, Pa. The burnishing sound is amplified to guide the operator on the basis that the sound volume is in direct proportion to the amount of metal being removed.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 12609**

Measure in Millionths with LIGHT WAVES

It's Easy...Fast!

Determine Surface Flatness At a Glance

Meet today's extremely close tolerance specifications with modern scientific measuring equipment. Using Acme optical equipment, it is as easy to measure to millionths of an inch, as it is to measure in tenths with a micrometer. Make your measurements via light waves with Acme equipment. Write for complete information.

Acme Scientific Company
manufacturers of optical flats and monochromatic lamps . . . mold polishing
1448 West Randolph Street • Chicago 7, Illinois

If you write maker identify as **IEN - 12610**

HOW YOU SAVE...

Getting Drier Compressed Air

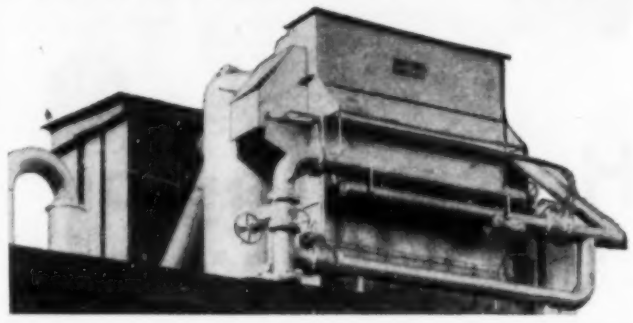
● You get lower costs and fewer troubles in the use of all air-operated machines, in paint spraying, in air cleaning or sand blasting, and lower maintenance and repair costs for all pneumatic tools.

The NIAGARA AERO AFTER COOLER assures these benefits because it cools compressed air or gas below the temperature of the surrounding atmosphere so there can be no further condensation in air lines.

Direct saving of cooling water saves you the price of the Niagara Aero After Cooler in less than two years.

Write for Bulletin No. 98

NIAGARA BLOWER COMPANY
Dept. EN, 405 Lexington Ave., New York 17, N.Y.



If you write maker identify as **IEN - 12611**

How to get longer life out of your portable cords and cables

1 USE junction or distribution boxes for making multiple power connections in working places.

2 PROTECT cables with fuses or circuit breakers of the proper rating for the service. Make sure that circuit breakers will operate properly.

3 PROTECT cables from being run over by heavy equipment. Running over the cable a few times may not cause immediate failure, but may do internal damage which will shorten its life. If the cable must be run across an aisle, place boards on either side as one would for a hose. If it is in use for only a short time, it should be thrown over the truck.

4 USE flame-resistant cables wherever possible.

5 DO NOT have portable cords and cables running over steam pipes or other heat-transmitting equipment.

6 KEEP cables away from sparking motors and high voltage equipment. The ozone generated by sparking commutators attacks rubber jackets, causing cracking.

7 AVOID overloading of cables. Where possible, use I.P.C.E.A. recommended current ratings.

8 AVOID dragging portable cords around rough edges or sharp corners. Bruises and cuts hasten deterioration of the jacket. Never yank cords to remove kinks or loosen them when caught on a projection.

9 AVOID running portable cables on pulleys or drums too small for the size of the cable; observe recommended I.P.C.E.A. minimum diameters.

10 KEEP cords away from oils and greases. If they do get into oil, they should be wiped off as soon as possible. Avoid having cords lie in pools of water, chemicals or grease.

11 BUY cables that can carry the required current without overloading or overheating. They should be flexible (have sufficiently fine strands) for the intended use.

FOR FREE REPRINTS, WRITE TO ADDRESS BELOW.

UNITED STATES RUBBER COMPANY
Electrical Wire and Cable Department
ROCKEFELLER CENTER • NEW YORK 20, NEW YORK

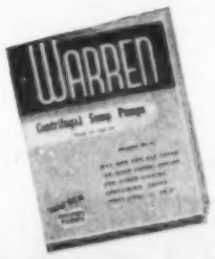
If you write maker identify as IEN - 12613

NEED A *Sump* PUMP?

A Warren-Quimby Type VS or VN might very well be your answer.

These centrifugal pumps are an economical and dependable means for drainage wherever water or other liquids must be raised from a pit to a higher level. Simple in design, rugged in construction, they can be depended upon to reduce maintenance and to be always ready when needed. They are easy to install, because each unit is designed for its particular location, and they are quiet in operation.

Sizes: 1½" to 8"



Send for Bulletin WQ-220 giving Specifications, Selection Chart, etc.

IEN-10

WARREN PUMPS

WARREN STEAM PUMP COMPANY, INC., WARREN, MASSACHUSETTS

If you write maker identify as IEN - 12614

Phillips INDUSTRIAL TRAILERS

✓ FOR HAULING ALL KINDS OF INDUSTRIAL PRODUCTS—MATERIALS

✓ MADE IN SIZES AND CAPACITIES TO MEET YOUR NEED

✓ FEATURE TIMKEN BEARINGS
PNEUMATIC OR SOLID TIRES
ALL STEEL WELDED CONSTRUCTION

MODEL TF-60
6000 lb. Capacity

MODEL TD-1200
120,000 lb. Capacity

Write today for complete data!

Phillips Industrial Trailers simplify hauling of heavy loads in and around industrial plants . . . with substantial savings in time, effort, and money. Ruggedly built to withstand long, hard usage, these trailers are available in capacities from 6,000 to 120,000 pounds. Easily maneuverable — they can be used singly or in tandem, for every industrial hauling requirement.

MANUFACTURERS SINCE 1863 PHILLIPS MINE AND MILL SUPPLY COMPANY PITTSBURGH, PA.

MATERIALS HANDLING EQUIPMENT

2500 JANE STREET • PITTSBURGH 3, PA.

IDEAS FOR YOU—*Continued*

If you write maker identify as IEN - 12616

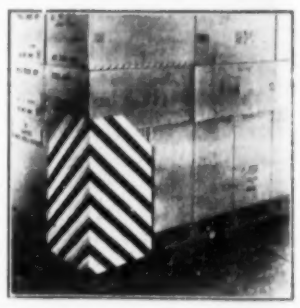
Low lift platform trucks by Elwell-Parker Electric Co., 4060 St. Clair Ave., Cleveland 3, Ohio, and special 10-ft.

dollies with casters on their forward ends are employed to handle loads to 18 ft. in length. The truck enters under the foot end of the dolly. It pivots and lifts the foot end clear of the floor. Loads to 5 ton can be handled with the 3-ton trucks.

If you write maker identify as IEN - 12617

Riffle Grip trade names a new rubber conveyor belt by B. F. Goodrich Co., 448-52 S. Main St., Akron 11, Ohio. It is an unusual design in which molded rubber ridges stand at an angle on the surface and about ⅛ in. in height. The ridges make a chevron pattern that channels water to the edge of the belt for dewatering action or to the center, by changing the conveyor incline and the belt idler angle, to hold the water for distribution through the material being handled.

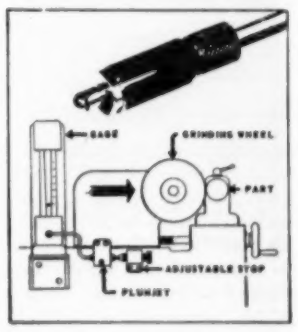
If you write maker identify as IEN - 12618



It is made of steel and is equipped with a gusset, welded on the bottom, to slide under the corner of a pile of pallets or boxes in storage. It is finished with bold black and yellow stripes of baked enamel to warn truck operators away. It protects the corner in the event of a collision. Randolph Metal Products Co., 3841-45 W. 43rd St., Chicago 32, Ill., makes it.

If you write maker identify as IEN - 12619

New application for the Plunjet gaging cartridge and the Precisionaire column type air gage is in amplifying the indication of any final movement on a machine slide adjustment. The cartridge is mounted on the slide with an adjustable stop assembled on a stationary machine part. It is connected to the air gage. Movement of 0.0001 in. on the slide changes the float position by a half inch in the gage column. Sheffield Corporation, 719-23 Springfield Ave., Dayton 1, Ohio.



All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12620

NOELTING *Faultless* ENGINEERED TRUCK CASTERS CUT HANDLING COSTS

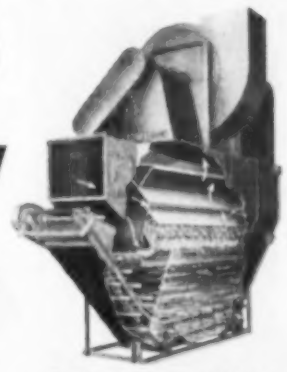
A fast flowing production line on Faultless Casters produces *more of anything* with less manpower and effort. It's your *practical solution* to cutting handling costs.

Regardless of what you handle or make, there is a Faultless Caster especially suited to your job. Wheel diameters range from 2" to 12"—load cap. from 65 lbs. to 9 tons ea.

FAULTLESS CASTER CORP.
Dept. IE-8, Evansville 7, Indiana—
Branches in Principal Cities—Canada Factory: Stratford, Ont.

If you write maker identify as IEN - 12621

NEWS about NEW DUST COLLECTOR Design 4 Type N ROTO-CLONE



Design 4 Type N ROTO-CLONE. Arrangement C, designed for continuous sludge removal.

This new version of AAF's famous Hydro-static Dust Collector adds many features to further reduce and simplify maintenance, increase service life and lower cost—yet retains the same cleaning action proved so effective in the collection of magnesium dust, buffing dust, lead oxide, lime and abrasive dust.

For complete information on the new Design 4 Type N ROTO-CLONE, write for Bulletin No. 277 or call your local AAF representative.

AAF American Air Filter COMPANY, INC.
335 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.

If you write maker identify as IEN - 12622

INSPECTION COSTS FALL . . .

when surface features and profiles are checked simultaneously

YOU may be missing a chance to lower inspection costs, speed the work, if you're overlooking the surface illumination feature of the Kodak Contour Projector.

Take the Geneva wheel shown here. By optical gaging, 47 dimensions are checked to tolerances of .001" in *less than 60 seconds*, using a single chart-gage and a simple staging fixture. Conventional shadow projection is used to check 36 of these. But only through surface projection can the 11 dimensions of the hub, including five angles and three radii, be checked simultaneously. A flick of a switch and the unique, self-contained surface illuminator makes checking surface details as easy as measuring shadow profile.

The inherent speed and accuracy of inspection and measurement on Kodak Contour Projectors are lowering inspection costs on all sorts of parts, simple and complex, large and small. The field representative in your area will be glad to show you how optical gaging can work for you. To get in touch with him, or for a copy of a booklet, "Kodak Contour Projector," write to:

Special Products Sales Division
EASTMAN KODAK COMPANY, Rochester 4, N. Y.

the KODAK CONTOUR PROJECTOR

Optical Gaging

A new sound movie, Optical Gaging, shows how to simplify complex inspection problems. We'll tell you how to get it for a showing.

Kodak

If you write maker identify as IEN - 12624

Smartest Buy for plant supply

Every roll-sealed in cellophane stays factory-fresh. Ask your dealer for this handy package of the tape that goes further, wraps right, lasts longer. Jenkins Bros. (Rubber Div.), 100 Park Ave., New York 17.

JENKINS Gold Seal Tape
FRICTION...RUBBER

MADE BY JENKINS BROS MAKERS OF FAMOUS JENKINS VALVES

If you write maker identify as IEN - 12625

Portable
SELF-PRIMING CENTRIFUGAL PUMP

Designed for drainage service and a wide range of water-handling jobs, Deming Fig. 3304 is an efficient, economical pumping unit. Made in all-iron or all-bronze construction, as specified. Impeller mounted directly on engine shaft. Unit shown is powered by Briggs & Stratton 1½ H.P., four-cycle, air cooled gasoline engine. Suction 1½"; discharge ½"; net weight 84 lbs. Length 20"; width 13"; height 19". Capacity ranges from 10 g.p.m. against 80 ft. head to 90 g.p.m. against 15 ft. head. Write for details.

THE DEMING CO. • 521 Broadway, Salem, Ohio

DEMING PUMPS FOR ALL NEEDS

If you write maker identify as IEN - 12626

Fire HATES this building

One reason Armco Buildings are so popular is their noncombustible, all-steel construction.

It means added safety for men and materials. Insurance rates are lower. Replacement and maintenance problems are simplified.

Armco Buildings stay neat and attractive year after year. With STEELOX construction there is nothing to get out of order—nothing to crack, warp or rot. Long service is assured.

Use Armco Buildings for shops, offices, warehouses and similar needs. They are ideal on permanent or temporary sites.

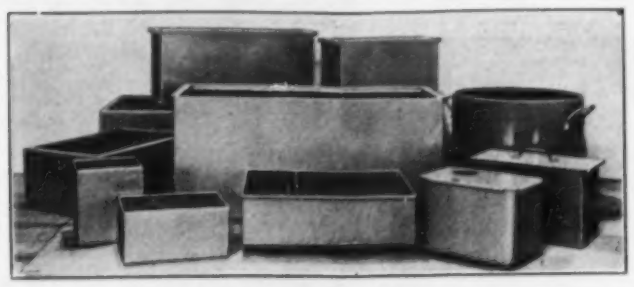
WRITE FOR THE COMPLETE MONEY-SAVING STORY

ARMCO DRAINAGE & METAL PRODUCTS, INC.
2723 CURTIS STREET
MIDDLETOWN, OHIO

If you write maker identify as IEN - 12627

TANKS . . Built on quantity order for processing, storage, 1 to 150 gal.

Source: GRAYMILLS CORPORATION
3709 N. Lincoln Ave., Dept. C, Chicago 13, Ill.



To your specified design

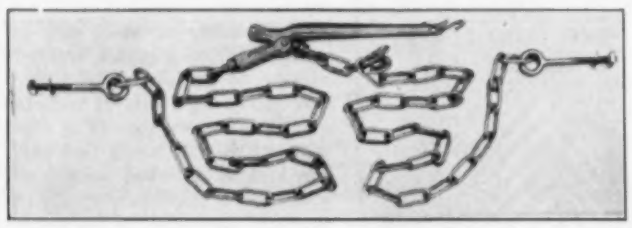
The company has established a contract fabricating department in which it is prepared to manufacture tanks to meet special requirements. Construction is in 18 to 14-gage steel with sizes ranging from 1 to 150 gallons. Illustrated are representative shapes now being produced.

Construction can include baffles, settling and collecting trays, filter screens, baskets, shelves, safety covers, casters. Applications include coolant storage, filtering, degreasing, work dipping and soaking, oiling, circulating, spraying, corrosion proofing.

If you write maker identify as IEN - 12628

TRUCK . . Chain binder attachment prevents spreading in a truck body

Source: CANTON MFG. CO.
2408-12 13th St., N. E., Canton 7, Ohio



Applies and releases quickly

New design of the load binder manufactured by the company employs link chain, the toggle mechanism and two forged eye bolts. The bolts are anchored in the sides of a motor vehicle truck body at a point where load weight tends to spread the body. Slack is taken up by the toggle lever and the chain is locked in place. Two designs include the lever design shown and one with a ratchet screw type binder rating 1 ton. List prices are about $6 and $13.50.

If you write maker identify as IEN - 12629

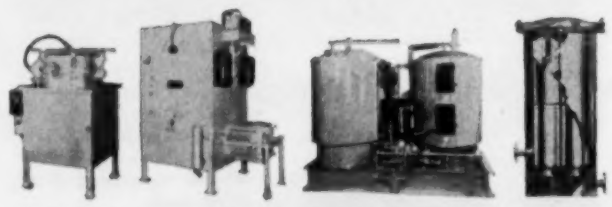
On request, you can get a sample packet of the adhesive backed aluminum foil nameplates that we described for C & H Supply Co., Boeing Field, Dept. 10, Seattle, Washington, in IEN-2757-51. The packet contains samples to show the various colors, the design possibilities and the altogether neat and practical appearance that these inexpensive nameplates make. They adhere to most any surface when you press them into place.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12630

HILCO LUBRICATING AND INDUSTRIAL OIL MAINTENANCE EQUIPMENT

Saves You MONEY, OIL and MACHINERY



OIL RECLAIMER PURIFIER, RE-REFINER HIGH CAPACITY RECLAIMER FILTER

A COMPLETE LINE OF EQUIPMENT FOR RECLAIMING, FILTERING, PURIFYING AND RE-REFINING OIL.

★ Hilco units are available for continuous or batch operation. You can keep your lubricating and industrial oils clean and recover large quantities of oil at low cost.

Whenever Oil is used it becomes contaminated—must be discarded or conditioned for further use.

There is a HILCO to do This Job for You

Cleans Oil, Reduces Down Time, Increases Production!

★ Tell Us About Equipment You Are Operating and We Will Forward FREE Literature and Recommendations.

OIL PURIFIER DIVISION

THE HILLIARD CORPORATION
35 W. 4th ST. • ELMIRA, N.Y.
IN CANADA — Upton - Bradeen - James, Ltd.
990 Bay St., Toronto, 3464 Park Ave., Montreal

If you write maker identify as IEN - 12631

ITS FELT TIP WRITES ON EVERYTHING!

in BOLD or *fine* lines

Marking steel drums, tools, parts, pipes, etc. is smooth sailing with the Flo-master Felt-Tip Marker.

The complete range of ten colors in Flo-master Inks permits speedy and accurate identification for assembling, stocking, inspecting.

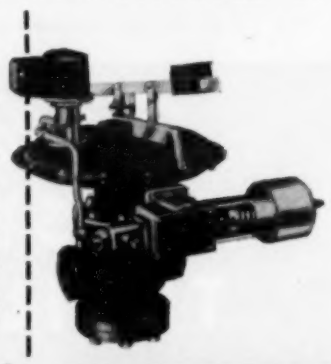
Flo-master semi-opaque inks — waterproof, non-smudging, fast-drying — are recommended for hard-to-mark surfaces using the KING SIZE Flo-master. For general purpose marking—cartons, cases, etc—use Transparent Inks with POCKET SIZE Flo-master (illustrated).

Contact your supplier or write direct to Cushman & Denison Manufacturing Co., 153 West 23rd Street, New York 11.

Flo-master
FELT-TIP MARKER

If you write maker identify as IEN - 12632

for on-off, high-low, modulating and gas control another industry first



General Controls B-55G Series slow-opening, electric-diaphragm valves are available in 3 basic models, responding either to temperature, pressure or electric controls. Originated by General Controls and standard for the industry, the flexible B-55G Series valves feature adjustable slow-opening speeds to 60 seconds, fail-safe, on-off and throttling control of all fuel gases flowing to industrial furnaces, ovens or gas-fired boilers.

General Controls B-55 Governor Type diaphragm valve

GENERAL CONTROLS
Glendale, California • Skokie, Illinois
Manufacturers of Automatic Pressure, Temperature Level and Flow Controls for Heating, Home Appliances, Refrigeration, Industrial and Aircraft Applications.
FACTORY BRANCHES IN 35 PRINCIPAL CITIES
SEE YOUR CLASSIFIED TELEPHONE DIRECTORY

If you write maker identify as IEN - 12633

GOT A TOUGH ONE IN TEFLON?

CONTACT SPARTA, SPECIALISTS IN TEFLON MOLDING

Above, some recent Teflon moldings by Sparta. Represented are Diaphragms, Special Washers, Discs, Seals and Cup Seals with difficult undercuts, varying wall thicknesses, other physicals formerly thought impossible to mold in Teflon.

Perhaps YOU can improve products, processes and profits with Teflon MOLDED TO YOUR SPECIFICATIONS. Sparta offers painstaking cooperation, no obligation . . . just write or call

SPARTA HEAT TREAT CO. PLASTICS DIVISION, EAST SPARTA, OHIO
PHONE EAST SPARTA 5651
(CANTON, OHIO EXCHANGE)

If you write maker identify as IEN - 12634

HOW TO PROTECT VULNERABLE SURFACES AGAINST CORROSION

Wherever you have a corrosion problem, you will find this guide helpful in working out an economical and practical solution. Based on the experience and research of TAPECOAT engineers since 1941, this factual booklet shows where and how TAPECOAT coal tar coating in handy tape form can be used to overcome corrosive action—both underground and above ground. It presents proved methods of protecting pipe, pipe joints, fittings, couplings, tanks and other vulnerable surfaces, together with case histories demonstrating the ability of TAPECOAT to meet the most severe conditions.

Write for your copy of this helpful guide today.

The TAPECOAT COMPANY
Originators of Coal Tar Tape Protection
1553 Lyons Street
Evanston, Illinois

If you write maker identify as IEN - 12635

Speed-Up SCREW-DRIVING and NUT-RUNNING

with these proven Milwaukee TOOLS

Model 624

Screw-Driver and Nut-Runner. Positive Type Clutch. AC or DC, 500 RPM. Handles Nos. 10 to 16 wood screws. Complete with assorted Bits, Finders, and Socket Driver.

$69.50

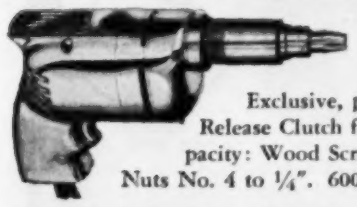
Model SDA-1
Screw-Driver Attachment
(In Circle Above)

$29.50

Adaptable to MILWAUKEE ½" Electric Drills, Models S-412 and S-512 only.

As a Nut-Runner, Model 624 handles Bolts and Nuts from No. 10 to ⅜"

Model 615 SCREW-SHOOTER and NUT-RUNNER



$69.50

Exclusive, patented, adjustable Torque Release Clutch for any desired tension. Capacity: Wood Screws No. 4 to 12; Bolts and Nuts No. 4 to ¼". 600 or 1000 RPM; AC or DC.

Write us for FREE Folder SD-2

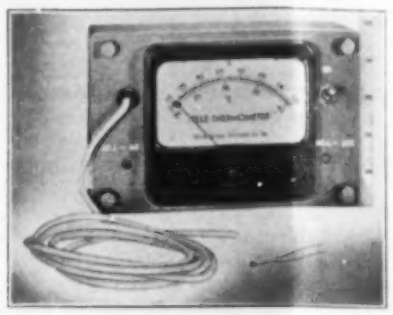
MILWAUKEE Screw-Shooters and Nut-Runners are used extensively in automotive, aircraft, refrigeration, radio, television and many other industries. Complete specifications for all Models, including Model SDA-1 Hevi-Duty Screw-Driver attachment for Electric Drills will be sent you promptly.

MILWAUKEE ELECTRIC TOOL CORP.
5360 WEST STATE STREET • MILWAUKEE 8, WISCONSIN

If you write maker identify as IEN - 12637

THERMOMETER . . Electronic unit is actuated by a thermistor probe

Source: YELLOW SPRINGS INSTRUMENT CO.
P. O. Box 106-A, Yellow Springs, Ohio



Within 0.25 per cent

Range is 68 to 105 deg. F. or 20 to 40 deg. C. for this new Tele-Thermometer. Readings can be taken continuously on the instrument dial with mounting at a position remote from the point of measurement. The actuating element is a thermistor probe at the tip of a 6-ft. wire sheathed in water proof plastic. Power is supplied by a Type-D flashlight battery. The housing measures 7½ by 4¾ by 3½ inches. Weight is 2½ pounds with the probe.

Operation is based on considerable change in resistance in the thermistor with slight change in temperature. The circuit is calibrated to indicate temperature in terms of current flow.

If you write maker identify as IEN - 12638

DRIVE . . Hydraulic fluid lubricates and is not flammable

Source: E. F. HOUGHTON & CO.
301-5 W. Lehigh Ave., Philadelphia 33, Pa.

Where heat is a factor

Houghto-Safe is a new water base "snuffer type" fluid for hydraulic use in machines and equipment, particularly those subject to high temperatures. The fluid is non-flammable, non-corrosive, non-toxic and can be employed for pressure to 1,000 pounds. It has lubricating characteristics equivalent to high grade petroleum hydraulic oils.

It will not freeze and can be pumped at temperatures down to 0 deg. F. It will not attack synthetic rubber packings. Viscosity index is 150. It is rated acceptable as a hydraulic fluid from the fire hazard standpoint by Factory Mutual.

If you write maker identify as IEN - 12639

LIGHTING . . Fluorescent lamp operates in blue green spectral range

Source: LUSTRA CORPORATION
36 Washington St., Dept. IEN, Brooklyn 1, N. Y.

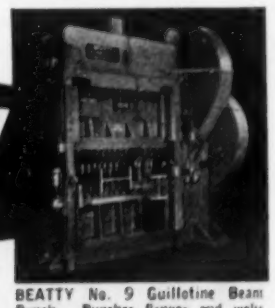
Each lamp is dated

Jade-Lite is a new fluorescent lamp for use in work and inspection areas to ease eye strain and minimize glare in overall illumination. It is suited also for office departments and for drafting rooms. The lamp is available in standard ratings. It is guaranteed unconditionally, under the company's Insured Service Plan, for 24 months of service.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

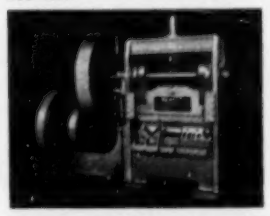
If you write maker identify as IEN - 12640

BEATTY



BEATTY No. 9 Guillotine Beam Punch. Punches flanges and webs of beams 6" to 30". Capacity 200 tons.

METAL WORKING TOOLS —— are the product of broad experiences and skill aimed at solving a specific problem. If you have such a problem, let a Beatty engineer work with you on it. Our broad experience in metal working production qualifies us to handle the most difficult assignment.



BEATTY Guillotine Shear for "short order" shearing without changing tools.

BEATTY Spacing Table handles flange and web punching without roll adjustment.

BEATTY MACHINE AND MFG. COMPANY
HAMMOND, INDIANA

If you write maker identify as IEN - 12641

Get Quick Relief from air venting headaches!

USE Armstrong Ball Float Air Relief Traps for venting air from hot water heating and supply systems or for venting any gas from any liquid.

They're less trouble, fuss and worry. They get rid of air fast—always work. Wear and corrosion resistant chrome and stainless steel inner parts mean long life and negligible maintenance.

A size and style for every requirement. Satisfaction guaranteed or your money back.

Good Air Relief Traps by the Makers of the widely used Armstrong Steam Traps.

Send today for free Air Relief Trap Bulletin.

ARMSTRONG MACHINE WORKS
888 Maple Street • Three Rivers, Michigan

If you write maker identify as IEN - 12642

Fans . . Blowers FOR ALL INDUSTRY

"Standard Units or Custom Design"

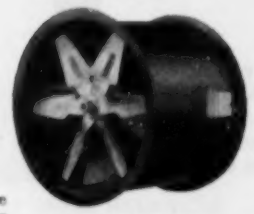
DOUBLE SWIVEL AEROSPOT

Fans and blowers in a wide range of standard size units are available for specific air moving and ventilating requirements. Special custom designed equipment can also be furnished. Our staff of engineers is at your disposal for competent advice on any ventilating problem. Correspondence invited, without obligation.

SEND FOR CATALOG TODAY!

For column or wall mounting. Saves valuable floor space. Direction of blast adjustable: 360° around Spindle Axis, 90° around Motor Support Axis. Sizes, 20" to 36".

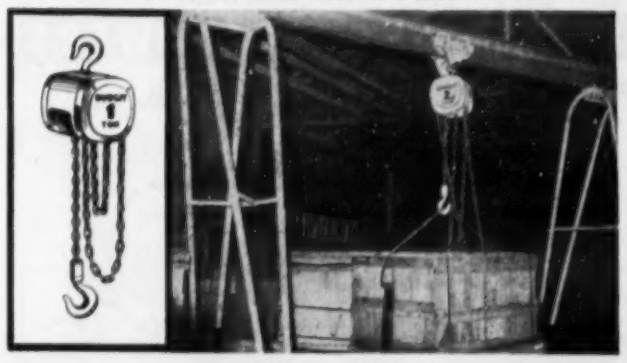
6 Blade DYNAFLOW Unit
Also available in two and four blade types. Sizes, 16" to 36".



DUCTYPE BLOWER
Direct driven, single or tandem fan units. Also available with belt drive. Sizes, 16" to 36".

SOUTH BEND AIR PRODUCTS, Inc. 327 S. COLFAX AVE SOUTH BEND, IND

If you write maker identify as IEN - 12643



LIGHT TO CARRY . . . EASY TO OPERATE

Want a hoist you can carry to the job? Then get a portable, spur geared 'Budgit' Aluminum Chain Block. The ¼-ton size weighs only 29 pounds. Want to lift 500 pounds with a 25-pound hand chain pull? You can do it with the ¼-ton 'Budgit'. The 'Budgit' Aluminum Chain Block is a knock-about hoist—easy to carry, hang up and use wherever spot lifting must be done in double-quick time. It gives you fast, smooth, effort-saving efficiency plus the complete safety of a big automatic load brake and over-capacity hooks and load chain. It's the toughest lightweight chain block ever built. Available in ¼, ½, 1 and 2-ton sizes. Check your "Shaw-Box" Distributor for details or write for Bulletin No. 398.

'Budgit'® CHAIN BLOCKS

MANNING, MAXWELL & MOORE, INC.
Muskegon, Michigan

Builders of "Shaw-Box" and 'Load Lifter' Cranes, 'Budgit' and 'Load Lifter' Hoists and other lifting specialties. Makers of 'Ashcroft' Gauges, 'Hancock' Valves, 'Consolidated' Safety and Relief Valves, 'American' Industrial Instruments, and Aircraft Products

If you write maker identify as IEN - 12644

WISSCO STEEL PROCESSING BELT

Turn your products out faster, more economically in continuous straight-line production with a Wissco Belt. To order, write or call our nearest sales office.

THE COLORADO FUEL AND IRON CORPORATION—Denver, Colorado
PACIFIC COAST DIVISION—Oakland, California
WICKWIRE SPENCER STEEL DIVISION—Atlanta • Boston • Buffalo
Chicago • Detroit • New Orleans • New York • Philadelphia

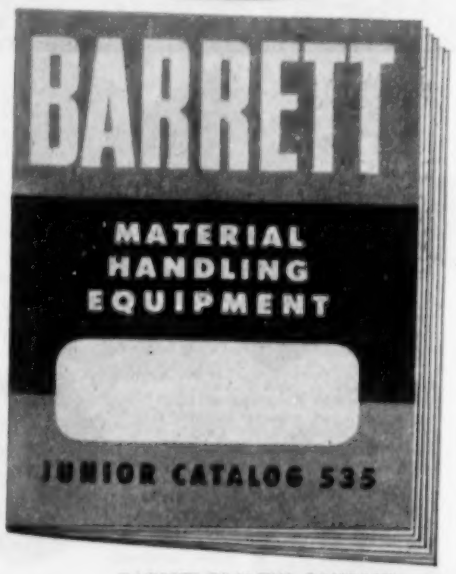
1431

WISSCO BELTS
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION CF&I

If you write maker identify as IEN - 12645

IDEAS ON MATERIALS HANDLING PROBLEMS

WRITE FOR 100-PAGE CATALOG 535



A Barrett engineer will help you select the equipment best suited to your needs —no obligation.

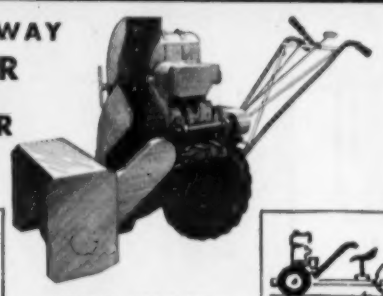
BARRETT-CRAVENS COMPANY
4641 S. Western Blvd., Chicago 9, Ill.
Representatives in All Principal Cities
Canadian Licensee: S. A. Armstrong, Ltd., Toronto, Canada

BARRETT
One Man Does More Than 3 or 4 ... with a Barrett

If you write maker identify as IEN - 12646

MAXIM SNOW THROWERS

PAY THEIR WAY WINTER AND SUMMER



WHY WAIT FOR SNOW TO FLY

Now you can use a powerful 7.5 h.p. Maxim Snow Thrower all year long . . . in the winter for the most efficient snow removal you ever saw . . . in the summer for mowing, rolling, grading, or hauling. Conversion quick and easy.

WRITE FOR DETAILS ON THIS MULTIPLE USE EQUIPMENT!

THE MAXIM SILENCER COMPANY
Dept. TW, 71 Homestead Ave., Hartford 1, Connecticut

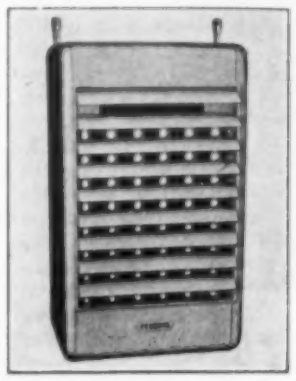
Name _____
Address _____

3MT53

If you write maker identify as IEN - 12647

HEATING . . Gas fired space unit in eight sizes to 200,000 btu. per hr.

Source: FEDDERS-QUIGAN CORPORATION
Lalor & Hancock Sts., Trenton 7, N. J.



Catalog GFU-C1

Quick warm up, freedom from danger of freezing when idle, characterize this new line of eight gas fired space heating units. A cast iron burner assembly, in the base of the steel housing, fires upward through baffle equipped steel tubes welded into steel headers. Products of combustion are vented through a connection at the upper rear.

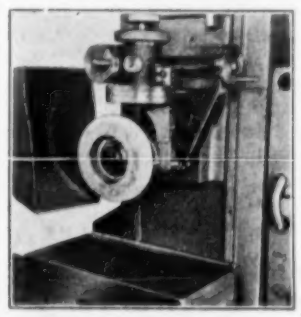
A fan, located with its driving motor at the rear, moves air through the heating element. Baffles, placed vertically on the element tubes, set up turbulence for efficient heat transfer. Adjustable louvers are assembled at the front. The complete unit is designed for suspension from overhead.

Air handling capacity is 600 to 2,700 cfm. The fan motor rates 1/40 to 1/6 hp. and speed is 1,050 or 1,140 rpm. Approximate dimensions are 15 to 27 in. in width, 25 to 33 in. in depth, 36 to 37 in. in height.

If you write maker identify as IEN - 12648

GRINDING . . Dresser attachment forms wheel to a required contour

Source: SPIKE MFG. CO.
24609 Middlebelt, Dept. IEN, Farmington, Mich.



Radius-Tangent unit

New dresser mounts a diamond holder and provides adjustments to dress a required simple or complex contour on a grinding wheel, following set-up to precision gage blocks. The assembly mounts on the machine spindle and is designed particularly for No. 2 surface grinding machines. A wheel can be dressed and redressed while a work piece remains in set position on the machine table.

Width and depth are 9 in. each. Height is 10½ inches. The spindle mounting clamp is 3 in. in diameter. The dresser applies with wheels measuring 4 to 7 in. in diameter. Maximum radius, convex or concave, is 2 inches. The attachment need not be removed from the machine.

If you write maker identify as IEN - 12649

You can lease an engine driven industrial truck, or several of them, for a period of two to five years, or an electric truck for as many as nine years through a new plan set up by Yale & Towne Mfg. Co., 405 Lexington Ave., New York 17, N. Y. The lease agreement includes option for renewal or purchase. The arrangement makes unnecessary a cash investment for outright purchase.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12650

at Cleveland Builders Supply

These 7,200 lb. concrete "Dox Planks" move safely on a Robbins and Myers "Freeway"* system. Two 8,000 lb. capacity R & M Twin Hook Hoists on American Monorail Co. track may help solve your "traffic jams." Write today for your copy of Bulletin 875, describing these versatile hoists.

**Materials handling on a separate overhead level.*

TAKE IT UP WITH
ROBBINS & MYERS INC.
MOTORS HOISTS CRANES FANS MOYNO PUMPS
HOIST AND CRANE DIVISION, SPRINGFIELD 99, OHIO

If you write maker identify as IEN - 12651

GET THIS GUIDE *to Standard or Special* NAYLOR FABRICATED FITTINGS

This handy Naylor Bulletin No. 525 offers helpful information on standard fittings for lightweight pipe and facts on special fabrications built accurately to your specifications. Sizes range from 3" to 44" in diameter and wall thicknesses up to ⅛". All types of materials. Write for your copy of No. 525 today.

NAYLOR PIPE COMPANY
1235 E. 92nd Street, Chicago 19, Illinois
New York Office: 350 Madison Ave., New York 17, N.Y.

If you write maker identify as IEN - 12652

nylon

MAINTENANCE PARTS . . .

FAST . . . without mold costs!

Now, when you need maintenance parts fast . . . and these parts call for the advantages of nylon (light weight, wear resistance, heat and corrosion resistance)—you can make them quickly, *with no mold cost!*

POLYPENCO nylon standard shapes are the answer. Ideal for gears, bushings, bearings, insulating shafts, washers, etc. Available in rod, strip, tubing. Easily fabricated on standard metal working tools. Quick delivery from stock. Write for bulletin, listing technical information or prices. The Polymer Corporation of Pennsylvania, Reading, Penna.

POLYPENCO® NYLON

nylon and teflon* / stock shapes . . . finished parts
also available to your specifications
In Canada: C-H Engineering Company • Montreal • Toronto
*registered trademark of the Du Pont Company

If you write maker identify as IEN - 12653

BOOST PUMPS

Boost 100 PSI. air pressure to 10,000 PSI, fluid pressure for $173.25 (FOB Gardena, Calif.). Eight standard models for output fluid pressures of 1,000 to 30,000 PSI. Special models for lower or higher pressures.

Applicable wherever low volume output at high pressures is the requirement. For oil or water service. Complete power packages also available. Send for bulletins.

SPRAGUE
Engineering and Sales Corp.
1144 West 135th Street, Gardena, California

If you write maker identify as IEN - 12654

he's a one-man dynamo with

ELECTROLIFT WORM DRIVE HOIST

It takes only one man to safely and economically lift and spot heavy production materials with ElectroLift worm drive hoists. Smooth and fast moving, with either rope or push button control.

For details on speed, capacity and models, consult your ElectroLift representative listed in telephone directory.

ELECTROLIFT

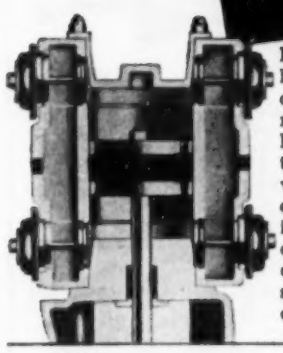
ElectroLift, Inc.
30 Church St., New York 7, N. Y.

If you write maker identify as IEN - 12655

Prevent Contamination

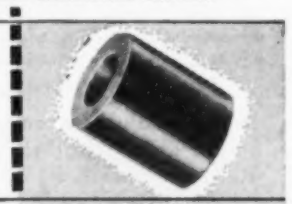
PROTECT PURITY— in compressors handling foods, chemicals, plastics, beverages, oxygen, etc.

MORGANITE SELF-LUBRICATING PISTON RINGS

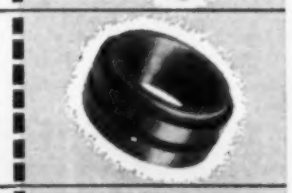


Require no lubricant during the life of the ring...completely efficient lubrication is inherent in the rings themselves. This "built-in" lubrication employs no impregnations...imparts no taste or odor, will not contaminate. Because no oiling is necessary, maintenance is reduced and operating costs are lower. Morganite Self-Lubrication Rings are the practical solution for compressors in oxygen and other hazardous service.

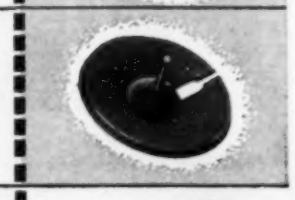
● **MORGANITE SELF-LUBRICATING BEARINGS** — Non-contaminating, unaffected by chemicals and most acids. Operate efficiently at relatively high speeds and temperatures. Recommended for pumps, mixers, grinders, agitators, food and enameling oven conveyors and general industrial service.



● **MORGANITE SELF-LUBRICATING CARBON SEALS**—Recommended for pumps, agitators, mixers and other equipment handling liquids including corrosives. The self lubricating feature is especially valuable where inaccessibility makes maintenance difficult.



● **MORGANITE LIQUID METER VALVES AND SLIDES**—Unaffected by petroleum, solvents, most acids and alkalis. Remain efficient over a wide temperature range, operate wet or dry, will not warp and are free from metallic noise. Ideal for sealed mechanisms and inaccessible locations.



FOR ENGINEERING ASSISTANCE ON SPECIFIC PROBLEMS, CONSULT—

Morganite sales engineers are available to help work out a practical solution to your design or maintenance problems.

Morganite INCORPORATED

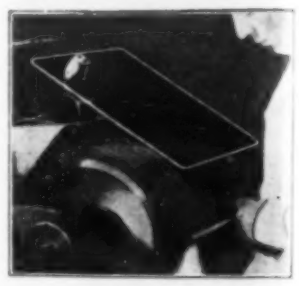
LONG ISLAND CITY 1, NEW YORK

MANUFACTURERS OF SELF-LUBRICATING CARBON SPECIALTIES, CARBON BRUSHES AND CARBON PILES

If you write maker identify as IEN - 12657

PROTECTING . . Transparent shield and permanent magnet for machine

Source: STANDARD PORTABLE CORD CO.
1300 E. Second St., Dept. IEN, Jamestown, N. Y.



About $10 to $15

Magic-Eye is a new combination of Plexiglas panel and the company's permanent magnet, previously described IEN-12028-52. It protects a worker against splash and flying sparks and chips at a machine. The magnet acts as the base, holds the shield in place. The non-magnetic clamping member includes a swivel so the panel of transparent plastic can be positioned as required. The magnet is covered and insulated with neoprene.

Two panel sizes are 8 by 10 in. and 12 by 14 inches. Holding pull at the magnet is 25 and 45 pounds. The plastic can be cleaned with soap, water and wax. Replacement panels are available from stock.

If you write maker identify as IEN - 12658

CORROSION PROOFING . . Zinc primer to brush or spray on iron and steel

Source: SEALUBE COMPANY
12-16 Valley St., Wakefield, Mass.

Technical data upon request

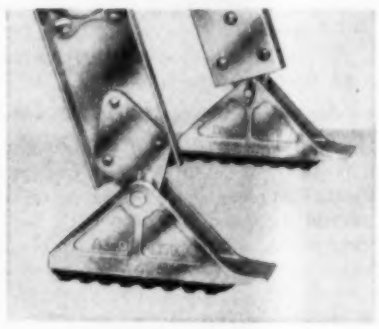
ZRC is a new fluid composition to brush or spray on iron and steel. The film dries to leave a coating of 93 to 95 per cent zinc. The coating is comparable to hot dip galvanizing. It can be built up to any desired thickness. Application can be made over adherent rust and mill scale. The zinc affords electrochemical protection in contact with the iron or steel under corrosive conditions.

Brushing is recommended to apply a coat containing ¼ oz. of zinc per sq. ft. for priming or 1 oz. per sq. ft. as a protective finish coat. The film dries to touch in about 30 min., hard in about four hours. The finish is light grey in color.

If you write maker identify as IEN - 12659

LADDER . . Aluminum safety shoes with pivoted brackets, rubber treads

Source: ALUMINUM LADDER CO.
101 Carbis St., Worthington, Pa.



$4.50 per pair

Alco-Lite is a new safety shoe made of cast aluminum with a pivoted attachment bracket for three rivets or bolts. Application can be made on most types of metal or wood ladder in straight and extension designs. The shoe will not throw sparks.

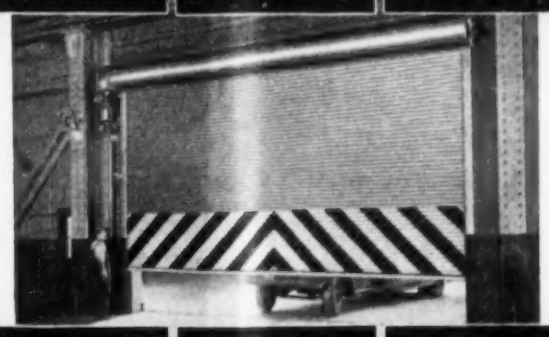
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12660

All ceiling space is clear— for hoists, conveyors, ducts, etc.

Clears the entire opening, stays out of reach of damage.

Door rises straight upward— completely out of the way.



Steel jambs anchor curtain against wind or storm damage!

Rugged, all-metal resistance to fire, storm or intrusion.

All floor and wall space around door always fully usable.

Above are only a few features that have made Kinnear Steel Rolling Doors top choice for efficiency, long low-cost service and extra protection—*through more than half a century.* Kinnear Rolling Doors are built to fit any opening, in old or new buildings. Motor or manual control. Send today for your copy of the new Kinnear catalog on doors for every need.

Kinnear Steel Rolling Doors

Saving Ways in Doorways KINNEAR ROLLING DOORS

The KINNEAR Mfg. Co.
2380-2400 Fields Avenue
Columbus 16, Ohio

If you write maker identify as IEN - 12661

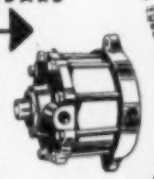
LOGAN AIR AND HYDRAULIC POWER

SPEEDS • COORDINATES • REFINES PRODUCTION
IN OVER 10,000 INDUSTRIAL PLANTS

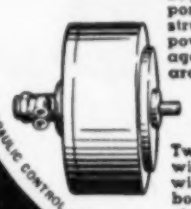
Logan

ROTATING AND NONROTATING **AIR CYLINDERS**

NONROTATING—7 STANDARD MOUNTING TYPES



Standard sizes from 1½" to 16" bore; maximum stroke, 18'. Special models to meet your requirements. Logan features larger ports, sturdier construction, maximum power without leakage, permanent seal around piston rod.



ROTATING

Two standard styles—Type R with cast iron body; Type K with lightweight aluminum body. Bore 1½" to 20" stroke 1" to 2". Longer strokes special.

AIR-DRAULIC CYLINDERS • AIR and HYDRAULIC PRESSES • COLLET GRIP TUBE FITTINGS • RAPID SURE-FLOW COOLANT UNITS • HYDRAULIC POWER UNITS • HYDRAULIC CYLINDERS • HYDRAULIC CONTROL VALVES • AIR CHOCKS • AIR CONTROL VALVES • AIR CYLINDERS

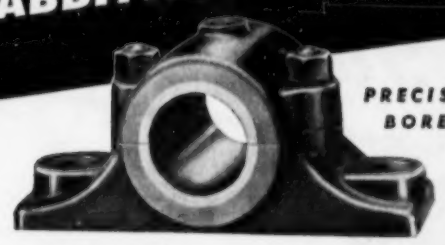
SAVES TIME Logan AIR AND HYDRAULIC EQUIPMENT REPORT • MOTOR

LOGAN MANUFACTURES 6,975 STANDARD CATALOGED ITEMS • CATALOG ON REQUEST
Consult Logan for your Special Heavy-Duty, Mill-Type Cylinder requirements.

LOGANSPORT MACHINE CO., INC.
813 Center Avenue Logansport, Indiana

If you write maker identify as IEN - 12662

DODGE BABBITTED BEARINGS



PRECISION BORED!

TRUE RUNNING!

DEPENDABLE!

● There's a *big* difference between a Dodge Journal Bearing and a common flat box — a difference that pays off in longer years of service, smoother operation, power savings! Dodge Journal Bearings are precision bored and faced — to insure maximum bearing surface for radial and thrust loads . . . Solid or Split Journal. Shaft sizes from 1/2" to 3-15/16". Stocked by Dodge distributors. Write us for full details.

DODGE MANUFACTURING CORPORATION, 600 Union St., Mishawaka, Ind.

DODGE
of Mishawaka, Ind.

FIRST IN POWER TRANSMISSION MACHINERY

If you write maker identify as IEN - 12663

have you a CORROSION problem?

BOLTS • NUTS
SCREWS • RIVETS
COTTER PINS
WASHERS
SPECIALS

IN BRASS
SILICON BRONZE
NAVAL BRONZE
COPPER
NICKEL
ALUMINUM
MONEL
STAINLESS STEEL

Harper Everlasting Fastenings are corrosion-resistant—produced from non-ferrous metals and all stainless steels. For fastenings that improve the appearance of your equipment—add years to its life, call Harper—largest manufacturer in its field. Over 7,000 different items in stock to meet your requirements. Write for catalog.

HARPER
EVERLASTING FASTENINGS

The H. M. Harper Company
8211 Lehigh Avenue
Morton Grove, Illinois
Please send me Harper Catalog 25.

Name.....
Company.....
Address.....
City.....State.....

If you write maker identify as IEN - 12664

Make overhead space contribute to plant earnings

CAPACITIES ½ TO 5 TON

CM METEOR WIRE ROPE ELECTRIC HOIST

• SINGLE AND TWO SPEED MODELS

METEORS offer real materials handling help in many ways. Read all about their unusual operating advantages in METEOR CATALOG No. 142—also illustrates all details of suspension and construction. Prices included.

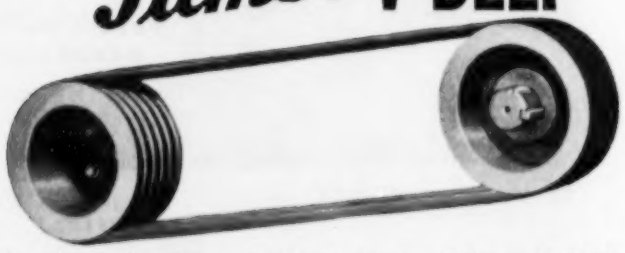
Sent on request

CM HOISTS AND CHAIN

CHISHOLM-MOORE HOIST DIVISION
COLUMBUS McKINNON CHAIN CORPORATION
TONAWANDA, NEW YORK
DISTRICT OFFICES: NEW YORK, CHICAGO, CLEVELAND
In Canada: McKinnon Columbus Chain Limited, St. Catharines, Ontario

If you write maker identify as IEN - 12665

All the *PULL* you can use is built into every *Gilmer* V-BELT



In the early days of V-belt drives, Gilmer V-Belts established a reputation for rugged dependability and long life. Constantly improved as new rubber compounds, stronger fibers and better belt-building techniques were developed, the Gilmer V-Belts you buy today are the toughest, most durable in all Gilmer history!

Gilmer V-Belts are made in all standard and many special sizes. Order them from your nearby, stock-carrying NYB&P-GILMER Distributor.

NYB&P **NEW YORK BELTING & PACKING CO.** 1 Market St., Passaic, N. J.
America's Oldest Manufacturer of Industrial Rubber Products

If you write maker identify as IEN - 12666

WHEN CRITICAL MATERIAL IS SCARCE—
Repair POWER CABLES with AMP SOLDERLESS

CONNECTORS

HEAVY DUTY PNEUMATIC TOOL #69015

Either "STUB" or conventional side position crimping with AMP's double-handled, Pneumatic Tool. Interchangeable jaws for wire sizes #6 to #1/0.

SOLISTRAND BUTT CONNECTORS

Can be used on solid, stranded or irregular shaped wire. These pure copper connectors make strong, vibration-proof permanent splices #22 to #4/0.

AMP
AMP TRADE MARK REG. U.S. PAT. OFF.

AIRCRAFT-MARINE PRODUCTS, INC.
2100 Paxton Street, Harrisburg, Pa.

If you write maker identify as IEN - 12667

WELDING . . Spot weld machine employs stored energy power unit

Source: RAYTHEON MFG. CO.
138 River St., Dept. 6470-IEN, Waltham 54, Mass.

Power unit controls it

Model ILS is a new head assembly in the company's line of stored-energy equipment, previously described IEN-12438-52. The press-type unit is foot operated and equipped with pressure and follow-up controls. A pressure scale is mounted on the front of the housing. The lower electrode can be set in a vertical or horizontal plane. The welder is particularly suited for assembly of instruments, electronic equipment, electrical appliances.

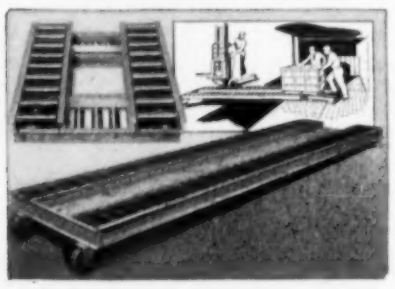
Electrostatic energy is stored in a capacitor in the power unit, over a period of one sec., by means of a rectifier tube. Maximum storage capacity in the Model 225A power unit with which the new head operates is 225 watt seconds. Maximum peak current is 8,000 amperes. Discharge interval is 0.003 to 0.016 seconds.

The capacitor is discharged into the primary of the welding transformer by a tube acting as an electronic switch. Discharge interval is a few milliseconds. The discharge creates welding current of high magnitude and low voltage at the electrode tips. The equipment operates on 110-volt ac.

If you write maker identify as IEN - 12668

CONVEYING . . Roller equipped ramp and pallet dolly for refrigerator cars

Source: SAMUEL OLSON MFG. CO.
2420-22 Bloomingdale Ave., Chicago 47, Ill.



Available to order

New ramp positions between a shipping platform and a refrigerator car. A new pallet dolly applies at its end in the car. The ramp takes boxes and cases to load in the car. They roll over the ramp to the dolly positioned at its inner end. The dolly then moves them at 90 deg. to be piled in the car. Rollers under the dolly are spaced to ride over the ventilated car floor.

If you write maker identify as IEN - 12669

Surface speed of 200 to 250 fpm., with feed at 0.0015 to 0.0025 in. per tooth, can be maintained in milling titanium alloy 150-A when the new Hi-Helix contour milling cutter is employed. The radially curved teeth are set at a high helix angle that results in slicing action starting with a thin cut and progressing through the work to slide the chips across the cutter face. There is no chatter or vibration. The cutter is made of high speed steel by Douglas Tool Co., 2302 E. 9-Mile Road, Hazel Park, Mich.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12670

YOUR SHIPMENTS DESERVE THIS PROTECTION

Can be equipped with printing attachment to mark your cartons as you seal. Heater at slight extra cost.

Counterboy 120

The all purpose sealer with Counterboy Moistening Control—ADJUSTABLE to adapt moistening to any sealing condition: such as standard or superstandard tape—age—high speed—water temperature—carton surface—etc. Assures deep penetration to give you maximum sealing protection.

Better Packages INCORPORATED
Plant # 2, 253 Canal St., Shelton, Conn.

Send for Booklet 252 illustrating 47 gummed and pressure tape dispensers.

If you write maker identify as IEN - 12671

CURE for 1,000 Headaches

SEAMLESS

F.O.S. *Industrial Tape*

The original pressure-sensitive tape made in hundreds of widths, weights, constructions for a host of time-saving applications.

BUNDLING

SEALING

BINDING

● Take a quick glance at the operations in which pressure-sensitive tape techniques are saving time and money. Seamless F. O. S. Tape is strong, tenacious, easy to apply, yet easy to remove. Special construction to resist staining, high temperature, moisture, corrosion and other severe conditions. Write for prices, free samples, authoritative advice and suggestions.

Do you have a defense contract requiring tape to meet government specifications? We can help you.

OTHER USES

MASKING • SOUND-PROOFING • HOLDING
PACKAGING • BACKING • HINGING
PROTECTING • REINFORCING • IDENTIFYING
SPLICING • INSULATING • STENCILLING

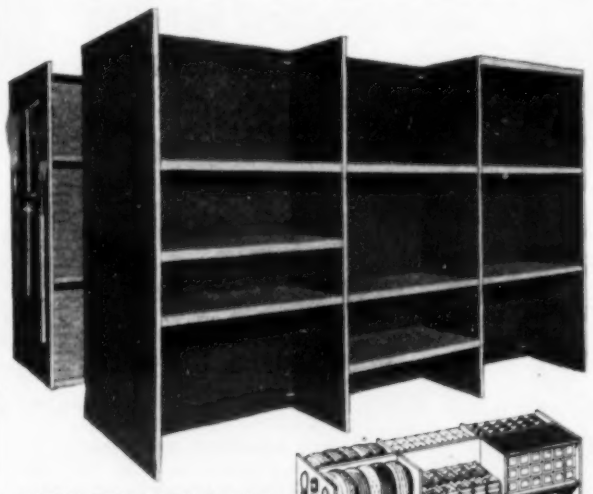
INDUSTRIAL TAPE DIVISION
THE SEAMLESS RUBBER COMPANY
NEW HAVEN 3, CONN., U. S. A.

If you write maker identify as IEN - 12672

PEG-BOARD

adjustable storage unit

NEW LOW-COST, STRONG INDUSTRIAL SHELVING
NOW AVAILABLE FOR IMMEDIATE DELIVERY

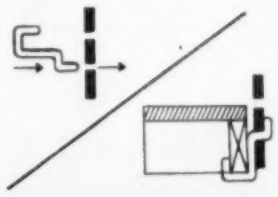


EASY TO ASSEMBLE
2-sided, 6 section unit (384 cu. ft.) assembled in LESS than 30 minutes.

You can order "PEG-BOARD" industrial shelving units to fit your specific storage requirements. They are easy to assemble, yet carry a heavy load. Made of tough perforated hardboard mounted to sturdy cross-braced frames, the "PEG-BOARD" storage unit gives you economy, versatility and strength.

Shelves adjust to any height on 1" spacings

Shelves are inserted or adjusted in a matter of seconds with special self-locking hangers as illustrated below. No tools of any kind required for assembly.



Photos above show how easily shelves are hung in this new unit. Shelves may be positioned at any height on upright sections. Each shelf is tough hardboard mounted to cross-braced frame. 1000 lb. load per shelf. The new "PEG-BOARD" low-cost units are available now . . . *no waiting* for delivery.

WRITE NOW FOR FREE BOOKLET . . . gives complete specifications, suggested arrangements, assembly details and prices.

Copyright 1953 by **B. B. BUTLER MFG. CO., INC.**
3161 Randolph Street • Bellwood, Illinois

PEG-BOARD" is the reg. T.M. of the B. B. Butler Mfg. Co., Inc. used to identify its products.

If you write maker identify as IEN - 12674

·NO MORE TINSEL ·NO MORE WIRES
·NO MORE IMPROVISATIONS

INSTALL NEW PATENTED

"MAGIC WAND"

SELF-ENERGIZING INDUCTION TYPE **STATIC NEUTRALIZERS**

WHICH USE STATIC ELECTRICITY GENERATED ON YOUR MACHINE AS THE NEUTRALIZING AGENT

No expensive high voltage bars, cables or transformers needed . . . No health hazards . . . Simple, amazingly effective . . . Inexpensive, no maintenance . . . No spark hazards, SAFE, does not shock operators nor damage stock.

The higher the charge, the faster the processing speed, the better this neutralizer works. Assures complete, not partial neutralization of static charges to safe levels.

WRITE FOR BULLETIN NO. 125

HERMAN H. STICHT CO., INC. 27 PARK PLACE, NEW YORK 7, N. Y.

If you write maker identify as IEN - 12675

Get this *SMALL* TRAP *With* *BIG* TRAP quality features!

- Renewable seat—easily removed for servicing.
- Strong's patented, wear-resistant Anum-Melt† valve and seat—guaranteed leak-proof for one year. Scientifically designed Hi-Cap* orifice gives greater capacity.
- Oversized ports—increased capacity.
- Horizontal inline connections—simplifies piping.
- Stainless 18-8 high ratio leverage.
- Large gasket area.
- Seamless, deep drawn, stainless 18-8 bucket—no welds.
- Bottom drain or inlet connection.

Available for pressures from 0 to 150 p.s.i., the Strong* No. 070 fits all standard trap applications. Built especially for use on laundry, restaurant and hospital equipment and in industry wherever small drainage is a problem.

As with all Strong Semi-Steel Traps, the 070 is guaranteed against defects in material and workmanship for one year. Write today for Catalog 68-I.

*T. M. Reg. U. S. Pat. Off.

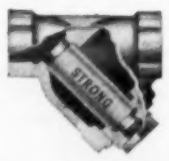
STRONG, CARLISLE & HAMMOND COMPANY
1392 WEST 3rd Street
Cleveland 13, Ohio

†ANUM-MELT Reg. Trade Mark

OTHER STRONG STEAM SPECIALTIES

Reducing Valve

Blast Trap


"SY" Strainer

STRONG

If you write maker identify as IEN - 12677

MIXING . . Laboratory equipment employs explosion proof impeller motor

Source: MIXING EQUIPMENT CO.
200 Mount Read Blvd., Rochester 11, N. Y.

Motor rates 1/20 hp.

The impeller shaft is secured in a chuck for operation at 1,750 rpm. in this new laboratory mixer. It has been added to the Lightnin line to provide an explosion proof unit that carries approval by Underwriters' Laboratories for Class I, Group D and Class II, Groups E, F and G service.

The motor is a ball bearing unit with a ball bearing head for added support for the shaft and an integral head ring and adjustable clamp to secure the assembly on the rim of a vessel. Application can be made in 50-gal. or smaller containers.

If you write maker identify as IEN - 12678

CORROSION PROOFING . . Chemical dissolves in water for ferrous metals

Source: RUST-PROOFING & METAL FINISHING CORP.
74 Commercial Ave., Cambridge 42, Mass.

No current and no toxic fumes

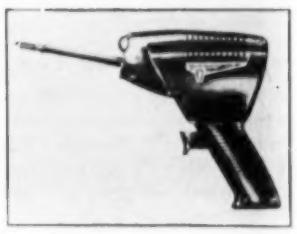
Endurion trade names a new chemical material, supplied in the form of white crystals, to make a dipping solution for iron and steel products. The solution is maintained at about the boiling point and the work to be treated is immersed in it. Products that have been treated have shown no signs of corrosion after intervals from 24 to 48 hr. under standard salt spray test. The material is specified as Finish No. 22.02, Class D, under MIL-P-12011.

The chemical is available in various colors including gray, black, olive drab. The colors can be employed for quick parts identification. Uniform coverage is obtainable on threaded parts, complicated shapes and assemblies. Close tolerances can be retained since there is no appreciable build up. The resulting finish will not chip or peel. It can be used as a final finish or as a base for paint.

If you write maker identify as IEN - 12679

SOLDERING . . Electric iron, trigger control, 250 watts, 110 volt ac.

Source: PHILLIPS MFG. CO.
2816 Aldrich Ave., Dept. IEN, Minneapolis 8, Minn.


Heats in 4 seconds

Model 250 is a new soldering iron in which replaceable tips are held in an extension barrel for quick interchange. Heat is provided by a carbon element. Operation is protected by a fuse. Control centers at a trigger switch in the housing.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12680

Which of these Materials Needs More *Efficient* Handling in Your Plant?

abrasive solids and chemicals in suspension • acid slurries and sludges • caustic liquors • milk of lime • soda ash • tailings • slag • ore concentrates • residue from filters and classifiers • coal • silt • washery solids • cement and glass sand slurries

Delivered 'round-the-clock (with fewer breakdowns) by

MORRIS TYPE R SLURRY PUMP

Longer uninterrupted service because:
- No internal studs to cause leakage
- Low pressure stuffing box practically eliminates packing troubles
- Impeller and liner removed without disturbing piping
- Moving parts available in various corrosion/abrasion-resistant alloys

Specifications and operation data on request. No cost — no obligation.

MORRIS MACHINE WORKS
Baldwinsville, N. Y.
Representatives in Principal Cities

MORRIS *Centrifugal Pumps*

If you write maker identify as IEN - 12681

Check up ON THE 132 USES FOR SPENCER VACUUM...

It's a new tool for industry that is eliminating tedious, time consuming jobs. It handles hot materials, reclaims metals, picks up liquids, removes dirt and dust at assembly and inspection benches and from the finished goods.

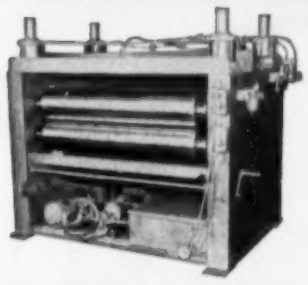
And at night the same Spencer System can clean immense floor areas in the factory, and clean and polish the floors, furnishings, and equipment in your offices. Sizes from ½ to 100 HP. Ask for the bulletin "132 Unusual Uses."

THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT
SPENCER HARTFORD
466-K

If you write maker identify as IEN - 12682

UNION AUTOMATIC COMPOUND SPREADERS

SAVE *8 WAYS



1 "Die life increased 75%."
2 "Production increased 20%."
3 "Compound saving of 16%."
4 "Rejects reduced 10%."
5 "One helper eliminated."
6 "Paid for itself in 54 days."
7 "Able to use salvage stock for some operations."
8 "25,000 more pieces before changing dies."

MODELS TO FIT ANY STOCK UP TO 96" WIDTH

Union is the foremost designer and manufacturer of roller coating machines for application of drawing or stamping compounds and protective coatings.

Models may be equipped with hardened steel, or with neoprene-covered rolls—also with heated or cooled rolls—to meet your individual requirements.

*The above claims are based on actual statements by users, both large and small—a number of whom have ordered a second and third machine.
Complete data and agent's name on request. Union will design and/or manufacture coating machines to meet your specific requirements.

UNION TOOL CORP.
320 E. MARKET ST., WARSAW, IND., U.S.A.

USERS SAY UNION CUTS COSTS, SPEEDS PRODUCTION

If you write maker identify as IEN - 12683

THERE'S ROOM FOR THIS FOOT SAFETY IN ANY BUDGET

Pattern shown ⅓ actual size

Economical is the word for A.W. SUPER-DIAMOND Safety Floor Plate. No other flooring gives you more foot safety, ease of maintenance, durability—at such low cost.

SUPER-DIAMOND gives real underfoot safety. Its exclusive, engineered raised-diamond pattern puts 40 anti-skid traction points in every footstep. SUPER-DIAMOND means low-cost maintenance. It's easy to clean with hose, mop or broom—and has no cracks or corners to catch and hold dirt. Finally, SUPER-DIAMOND lasts a lifetime. It withstands hard blows and heavy loads—resists heat, fire and most chemicals.

For safety with economy, learn the facts about A.W. SUPER-DIAMOND. The handy coupon brings you our newest booklet on floor safety.

A.W. SUPER-DIAMOND
ROLLED STEEL FLOOR PLATE

ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PA.

Please send me, without charge, your latest booklet SD-43 on SUPER-DIAMOND safety.

*Name*_____
*Company*_____
*Address*_____ *City*_____ *State*_____

If you write maker identify as IEN - 12684

NOW! A full-fledged fork truck at 1/2 the cost!

There's nothing like it on the market! Lewis-Shepard's SpaceMaster Model "J" *is a real fork truck . . .* yet it sells for ½ the price of a conventional electric truck. So you get full L-S Fork Truck advantages—lubricated-for-life feature, superior L-S Hydraulics, proven L-S dependability—*plus* these exclusive extras!

- **Maximum Maneuverability:** Pivots on the center of its front axle
- **Exclusive Steering-Wheel Drive:** Provides extra stability—mast is directly over front wheels
- **Exclusive Foot Controls:** Both operator's hands are free for steering
- **High-Capacity-to-Gross-Weight:** Ideal for operation where floor loads are limited
- **Lowest Cost Operation:** Model "J" users say, "A dime-a-day to run a 'J'"

Add all these advantages to the low initial cost and you'll see why the "J" is ideal for low floor loads, cramped areas and low budgets.

WRITE TODAY for full information!

LEWIS-SHEPARD
233-11 Walnut St., Watertown 72, Mass.
The "MASTER" Line

If you write maker identify as IEN - 12685

World Famous! TYPE M ELECTRIC HOIST

for ruggedness and simplicity, long life and low maintenance. A real material handling cost saver. Available in various suspensions and speeds; in capacities 1000 to 6000 lbs.

Ask for Bulletin 668

DETROIT HOIST & MACHINE CO.
48th year—Designers & Manufacturers of Hoists and Cranes
8249 Morrow St. • Detroit 11, Mich.

If you write maker identify as IEN - 12686

The "Signature" is the finishing touch on your product!

Ever stop to think that your name plate is really the "signature" on your product? Its appearance should reflect your pride; its durability should match the quality of your product. Let us help you create such a "signature." Our skilled craftsmen, long experience and modern equipment insure finest results. Send a rough sketch or blue print for design suggestion and quotation.

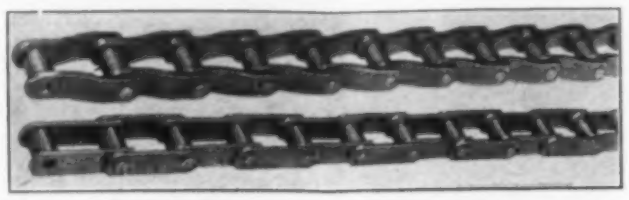
Write now for "Etched or Lithographed Metal Products", with full color examples of name and instruction plates.

CHICAGO THRIFT-ETCHING CORPORATION
1555 N. SHEFFIELD AVE., CHICAGO 22, ILL., DEPT. F
SUBSIDIARY OF DODGE MANUFACTURING CORPORATION, MISHAWAKA, INDIANA

If you write maker identify as IEN - 12687

DRIVE . . Steel roller chain for power transmission and conveying

Source: CHAIN BELT CO.
4703 W. Greenfield Ave., Milwaukee 1, Wis.



Bulletin 53-59 contains specifications

Types R and RX, with offset sidebars, and Type RR are new roller chain in selected sizes to replace certain sizes in the company's Chabelco line. The first two types are for power transmission drives, the third for conveying applications. All operate on standard sprockets.

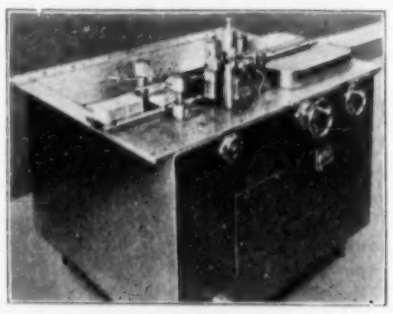
The company selected certain sizes, following field tests of the original line, and made improvements in the rollers, pins and bushings without changing their dimensions. Press fit is exact. Finish is accurate to size and smoothness. Need for extra couplers or connecting links has been eliminated.

The new chains are available from stock with prices unchanged or a little lower than the previous designs. Pitch ranges from 1.654 to 4.073 in. for the power transmission chain. It is from 1.654 to 4.000 in. for the conveyor chain. Working load is 1,300 to 10,000 and 1,300 to 2,500 pounds.

If you write maker identify as IEN - 12688

MARKING . . Roll type machine prints on tops and ends of containers

Source: ADOLPH GOTTSCHO INC.
6-D Terminal Road, Hillside 5, N. J.



Golden Jubilee

New design of the Model-3M Markocoder prints identification data and code dates on the top or ends of cartons and boxes as they move along on a conveyor line. The machine forms a part of the line, can be set to operate at speed to 600 units per minute.

Construction includes an integral ink pump to eliminate need for the previous pump motor, provision for quick container size, color and die wheel change. The new machine will print close to the bottom of the container. It measures 54 in. in length or 23 in. less than its predecessor.

If you write maker identify as IEN - 12689

Plastic sheets are being surfaced with copper and aluminum by Formica Company, 4612-22 Spring Grove Ave., Cincinnati 32, Ohio, for manufacture of printed electric circuits. The metal foil is laminated on one or both faces of Formica laminated sheet. The whole sheet is blanked or punched into desired shapes and outlines.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12690

DRILL CONCRETE

EASIER! FASTER! BETTER!

RCD Drill Bit for use with rotary electric or air drills

Drills perfect, precision holes even in *reinforced* concrete. Super fast and easy (6" deep hole in 1 minute!) Pays for itself in time-savings. Made to last.

Widely used for the past five years by most of the largest U. S. corporations, manufacturers, and utilities, as well as thousands of smaller firms, installation men, contractors, electricians, plumbers, etc. Superior concrete drilling plus longer drill bit life due to FREE factory resharpening service keeps them sold.

Personalized guarantee given to every RCD Drill Bit user
If dealer cannot supply (or service), buy direct.

Send for illustrated literature and price list

ROTARY CONCRETE DRILL CO.
650 S. Arroyo Parkway, Pasadena 1, Calif.

If you write maker identify as IEN - 12691

PROFITABLE PRODUCTIVE ECONOMICAL

THE SUREWELD® PORTABLE D-C WELDER

The Sureweld Gas Driven D-C Welder is small enough, portable enough to go wherever the operator can go. And that's why it's so profitable, productive, economical. Delays, expenses, interruptions normally a part of on-the-job welding are eliminated. More time is spent welding. More welding is done. And the savings are usually enough to repay its cost in a few short weeks. Its capacity is ample for 85-90% of on-the-job welding. We'll be glad to demonstrate in your shop what owners say is the most useful welder they ever had. Or to send a copy of bulletin NH-121. Write today.

Copyright 1953, National Cylinder Gas Company

NCG® National Cylinder Gas Company
840 N. Michigan Ave., Chicago 11, Illinois

If you write maker identify as IEN - 12692

Send YOUR AUTOMATION PROBLEMS to KRAUS

No matter how tough they are . . . give us a chance to solve your automation problems. Highly skilled engineers adapt Kraus Hoppers to your needs . . . and build completely coordinated assembly machines to fabricate your product. We won't work miracles, but we may solve the impossible. Send your automation problems today to

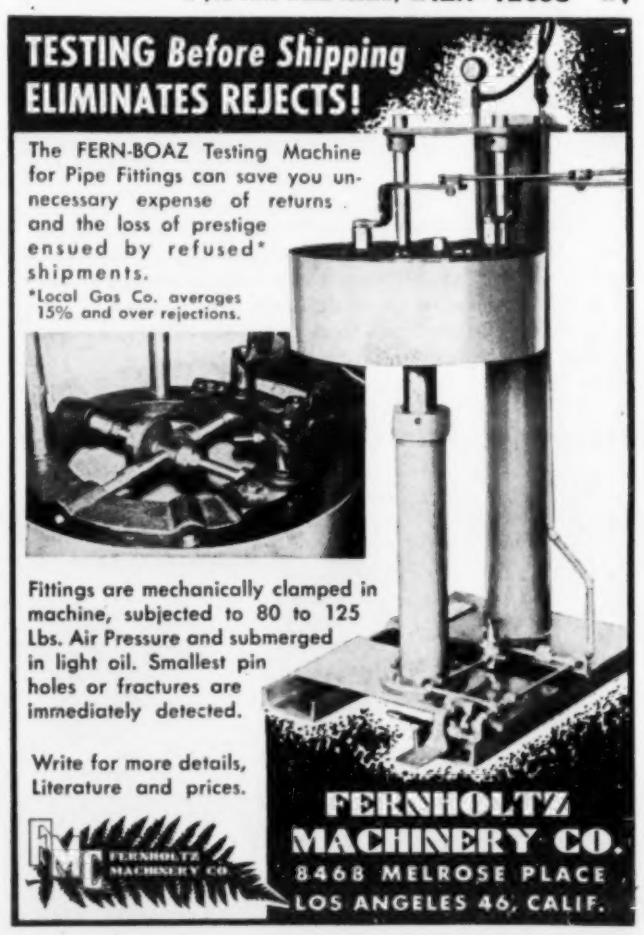
KRAUS DESIGN, Inc.
948 Exchange Street
Rochester 8, N. Y.

If you write maker identify as IEN - 12693

TESTING *Before Shipping* ELIMINATES REJECTS!

The FERN-BOAZ Testing Machine for Pipe Fittings can save you unnecessary expense of returns and the loss of prestige ensued by refused* shipments.

*Local Gas Co. averages 15% and over rejections.



Fittings are mechanically clamped in machine, subjected to 80 to 125 Lbs. Air Pressure and submerged in light oil. Smallest pin holes or fractures are immediately detected.

Write for more details, Literature and prices.

FERNHOLTZ MACHINERY CO.
8468 MELROSE PLACE
LOS ANGELES 46, CALIF.

If you write maker identify as IEN - 12694

Aviation
Marine
Industrial
Broadcasting
Radio-TV Lead-Ins
Test Equipment
Pulse, Radar, Experimental Equipment and Special Types

TRUSTWORTHY TRANSMISSION

For HF · VHF · UHF with **Federal's** *QUALITY-CONTROLLED COAXIAL CABLES*

Whatever your transmission line requirement, Federal is ready to supply you from one of America's most diverse stocks of RG types . . . or to work with you on new development and production.

Before you specify cable—or cable assemblies—for any general or military application, get the facts from Federal. *We have the answer or we can get it . . .!*

Write for Federal's new 28-page Cable Catalogue—Dept. D-723

Federal Telephone and Radio Company

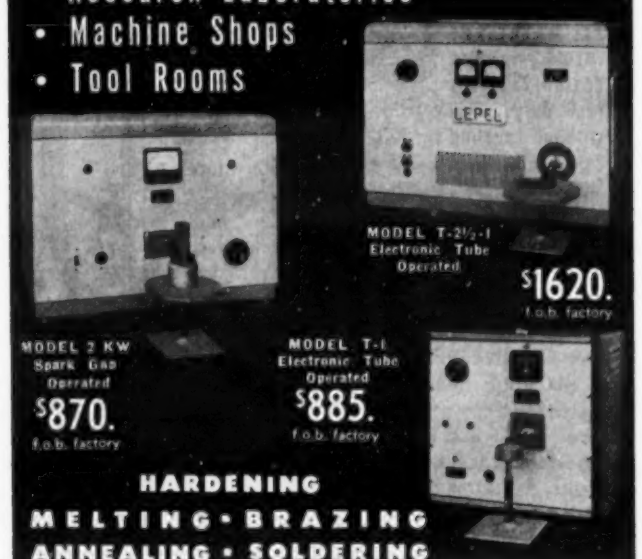
SELENIUM-INTELIN DEPT. 100 KINGSLAND ROAD, CLIFTON, N. J.

If you write maker identify as IEN - 12695

Lepel's 3 new LOW COST • PORTABLE HIGH FREQUENCY *Induction* HEATING UNITS

Ideal for . . . .

- Production Heating of small parts
- Educational Institutions
- Research Laboratories
- Machine Shops
- Tool Rooms



MODEL T-2½-1 Electronic Tube Operated $1620. f.o.b. factory

MODEL 2 KW Spark Gap Operated $870. f.o.b. factory

MODEL T-1 Electronic Tube Operated $885. f.o.b. factory

HARDENING
MELTING · BRAZING
ANNEALING · SOLDERING

The Lepel line of induction heating units represents the most advanced thought in the field of electronics as well as the most practical and efficient source of heat yet developed for industrial heating. With a background of half a century of pioneering electrical and metallurgical experience, the name Lepel has become the symbol of induction heating equipment embodying the highest standards of engineering achievement, dependable low cost operation and safety.

Amazing in its speed, Lepel equipment reduces the time required for hardening, annealing, stress relieving, brazing, soldering and melting from minutes to seconds. It performs these operations with a degree of precision and uniformity rarely attained through other processes.

LEPEL Electronic Tube GENERATORS available from 1 kw. to 100 kw.
LEPEL Spark Gap CONVERTERS available from 2 kw. to 30 kw.

WRITE FOR THE NEW LEPEL CATALOG . . . 36 illustrated pages packed with valuable information on high frequency induction heating.

All Lepel equipment is certified to comply with the requirements of the FCC.

LEPEL HIGH FREQUENCY LABORATORIES, INC.
55th STREET and 37th AVENUE, WOODSIDE 77, NEW YORK CITY, N. Y.

If you write maker identify as IEN - 12697

HEAT TREATING . . Electric furnace, to 2,500 deg. F., vacuum to 29 inches

Source: K. H. HUPPERT CO.
6856 Cottage Grove Ave., Chicago 37, Ill.

Door seals tight

Airfre is a new high temperature electric vacuum furnace for production and laboratory use in specialized heat treating operations such as stress relieving in glass tube thermostat assemblies. The furnace and the vacuum equipment can be operated separately, as well as together. The design is available in a range of sizes and with the required operating and control equipment.

If you write maker identify as IEN - 12698

ADHESIVE . . Thermosetting film for metal, plastic, glass, wood

Source: COAST MFG. & SUPPLY CO.
Box 71-A, Livermore, Calif.

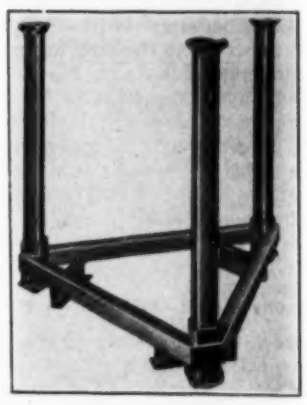
Process data in Bulletin 31

Trevabond FM-47 is a new translucent yellow thermosetting resin that is reinforced by an open weave glass cloth to provide an adhesive film in three thicknesses from 0.013 to 0.030 inch. The film is applied to either of two surfaces to be joined and is force dried for an hour at about 225 deg. F. The surfaces are then assembled and pressed together at 15 to 500 lb. followed by a 20-min. pressure cure at 300 deg. F. Both flat and curved products can be made.

If you write maker identify as IEN - 12699

HANDLING . . Tubular steel rack with socket feet for secure stacking

Source: PALTIER CORPORATION
1703 Kentucky St., Michigan City, Ind.



Each to order

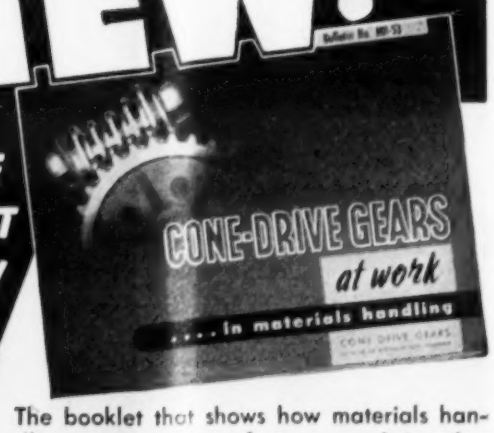
Triangular design, particularly to handle coil stock, has been added to the company's tubular steel racks, previously described IEN-10774-52. It can be picked up by a fork truck from various angles. It can be fitted with a rectangular wood or steel deck to handle work other than coils.

The feet are equipped with the Paltier patented nesting pyramids for secure stacking. The rack is available in specified sizes and load capacities. The company can supply a specification sheet to assist the prospective user.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12700

NEW!



WRITE FOR IT TODAY!

The booklet that shows how materials handling equipment manufacturers are increasing gear life, obtaining greater compactness, boosting load transmitting capacity, obtaining greater operating smoothness—

ALL AT NO INCREASE IN COST
By specifying STANDARD
Cone-Drive Gears and Speed-Reducers

CONE-DRIVE GEARS *Division Michigan Tool Company*
DOUBLE ENVELOPING GEAR SETS & SPEED REDUCERS 7171 E. McNichols Road • Detroit 12, Michigan

If you write maker identify as IEN - 12701

Rubber Inner Soles Take Fast Trip Through Drying Oven

● In a large Eastern firm, Cyclone Flex-Grid Metal Belts are used to convey adhesive-coated inner soles through infra-red drying ovens. The wide-open areas of the belts allow infra-red rays to reach both upper and under sides of the product . . . for fast, uniform drying.

Cyclone makes conveyor belts in a variety of styles and meshes—widths and sizes—metals and alloys—to meet many manufacturing needs. If you have a plant bottleneck, perhaps one of these belts could help you. Ask our experienced engineers for advice, and write Cyclone Fence, Dept. C-113, Waukegan, Illinois, for a free Conveyor Belt Catalog.

U·S·S CYCLONE METAL CONVEYOR BELTS

CYCLONE FENCE DEPARTMENT
AMERICAN STEEL & WIRE DIVISION
UNITED STATES STEEL CORPORATION, WAUKEGAN, ILLINOIS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

UNITED STATES STEEL

If you write maker identify as IEN - 12702

Tough...

FOR THE TOUGH JOBS!

BIDDLE
Shackle Bolts

BIDDLE Shackle Bolts *are* tough. They're made to take the load where hardened and ground bolts, drilled and tapped for grease fittings, are needed. Made from 1020 steel, BIDDLE Shackle Bolts are knurled under the head for locking, threaded and cotter drilled for SAE Castle Nuts, and drilled, tapped and threaded for standard grease fittings. They are carburized, hardened to Rockwell "C" 50-55 and are ground. BIDDLE Shackle Bolts are available in 66 sizes from 9/16th inch to 1¼ inch in diameter and from 3¼ inch to 8 inches in length. Special sizes to customer specifications. Small quantities available in stock sizes. If you are looking for a tough bolt for the tough jobs . . . BIDDLE Shackle Bolts fit your needs.

Write today for more complete information and specifications.

NATIONAL SCREW MACHINE PRODUCTS ASSOCIATION

BIDDLE SCREW PRODUCTS COMPANY
SHERIDAN, INDIANA

If you write maker identify as IEN - 12703

IS RUST EATING AWAY YOUR PARTS INVENTORY?

Then you Need MARVELLUM VPI® WRAP
Paper coated with a Volatile Corrosion Inhibitor

Avoid the damages of destructive rust, the loss of time and money spent in refinishing inventory parts, the mess and bother of slushing and cleaning. Wrap your parts—or merely line your bins—with economical Marvellum VPI.

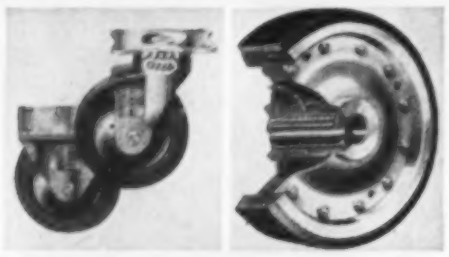
VPI is a paper coated with a new chemical which slowly vaporizes, forming an invisible protective film that prevents corrosion. Used as a wrap it keeps rust away for years. Used as a liner it gives you many months of trouble-free storage. Developed during the war as a protective wrap for shipment of steel and aluminum parts, many companies are also using it to protect their inventories or as a lining for tote boxes on the production floor.

Marvellum VPI is available in sheets, envelopes or special containers. Marvellum has complete facilities under one roof for designing, producing and coating VPI Wraps. Also makers of a wide range of other barrier materials to meet your needs for product protection. Distributors in all major cities.

Get all the facts. Write for FREE BOOKLET.

The Marvellum Company
24 APPLETON STREET HOLYOKE, MASS.
First and Foremost in VPI Protection

If you write maker identify as IEN - 12704



DARNELL
Casters & Wheels
Always
SWIVEL
and ROLL

DARNELL CORPORATION, LTD.
DOWNEY (LOS ANGELES COUNTY) CALIFORNIA
60 WALKER STREET, NEW YORK 13, NEW YORK
36 NORTH CLINTON STREET, CHICAGO 6, ILLINOIS

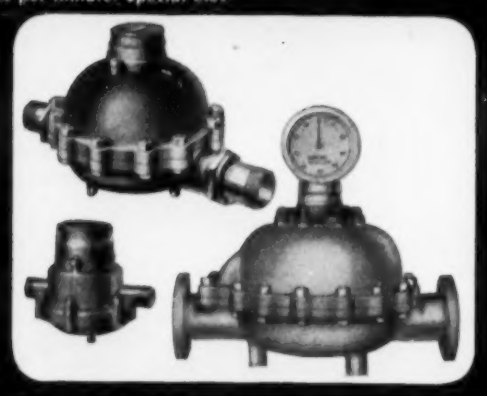
If you write maker identify as IEN - 12705

"I suggest NIAGARA METERS. Their wide range will give us ACCURATE MEASUREMENT of all liquids we use!"

The excellent accuracy of NIAGARA METERS minimizes waste and losses in the measurement of chemicals, solvents, oils, hot water, cold water, syrups and other liquids. Nearly all volumes and types are handled, from 1/30 to 1000 gallons per minute. Special electric contact meters for automatic batch metering. Stainless steel meters for corrosive liquids.

Be sure you know all the advantages of NIAGARA METERS.

Send in the Data Request blank below — today.



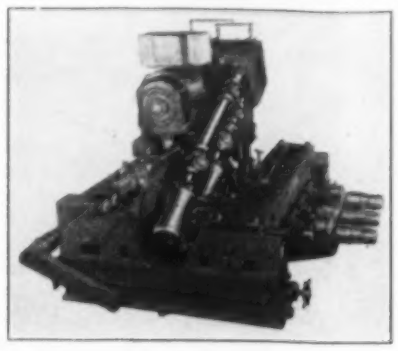
BUFFALO METER CO. 2893 MAIN STREET BUFFALO, N.Y.

Gentlemen:
Please send me complete information on the use of economical NIAGARA METERS, based on the data below:
Liquid _____ Pressure _____ p.s.i.
Temp. _____ °F.
Flow rate _____ g.p.m.
Maximum batch _____ gals.
Name _____ Title _____
Company _____
Address _____

If you write maker identify as IEN - 12707

STRAIGHTENING . . Roll type machine, tubes to 10 in., bars to 6½ inches

Source: SUTTON ENGINEERING CO.
751 Sutton St., Bellefonte, Pa.



For any metal

Hot rolled bars and heavy wall tubes are run through this new machine at speeds to 320 fpm. with good results. The rolls are driven by an adjustable speed motor providing a 4 to 1 ratio. Thus a 125/150-hp. motor, operating at 300/1,200 rpm., on 220-volt dc. provides a straightening speed range of 60 to 240 fpm. for tubes that measure to 10 in. in outside diameter.

A central pressure roll is located between two sets of opposed rolls, each set having a driven roll and an idler. The arrangement distributes the straightening action over three points. The machine measures 20 by 15 by 10 ft. including the drive. It employs motor driven controls and is operated from a pulpit. Angular adjustment of the driven rolls appears on two dials in front of the operator.

If you write maker identify as IEN - 12708

HEATING . . Electric hot plate rates 660 watts on 110 volt ac.

Source: THERMO ELECTRIC MFG. CO.
482 Huff St., Dubuque, Iowa

Thermostat controlled

Model 2500 is a new 7-in. circular unit in the company's line of electric hot plates. The top plate is made of cast aluminum. It is mounted on a base, also made of aluminum, and equipped with two Marinite insulating plates separated by an air space. Cool air enters at the bottom, flows between the insulating plates and along the outer shell to exhaust through an air space between the top plate and the housing.

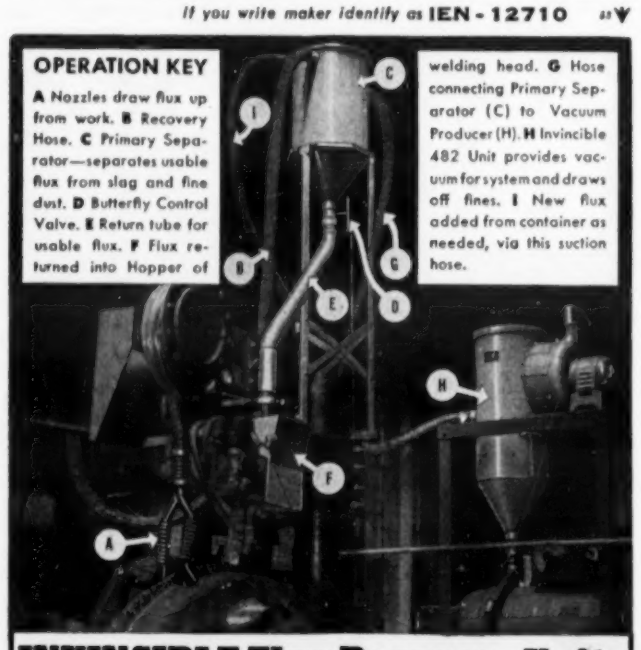
Two sockets are welded to the rear of the housing for a standard clamp and rod to support apparatus above the plate. Overall dimensions are 7¾ in. in diameter by 4 in. in height. Weight is 5¾ pounds. The top plate will reach maximum temperature of 700 deg. F. in 25 min. from a cold start. Temperature is set by turning a knob on the housing side.

If you write maker identify as IEN - 12709

You receive cash or graded pure diamond powder in trade for the diamond bearing sludges, swarfs and scrap diamond wheels and lapping wastes such as cotton. Just collect and send them to Industrial Diamond Powders Inc., Box 613-A, New Kensington, Pa.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12710



INVINCIBLE Flux Recovery Units

These installations soon pay for themselves by (1) saving labor, (2) salvaging valuable material, (3) making the welding operation more efficient. Both automatic and manual systems.

Write for complete information

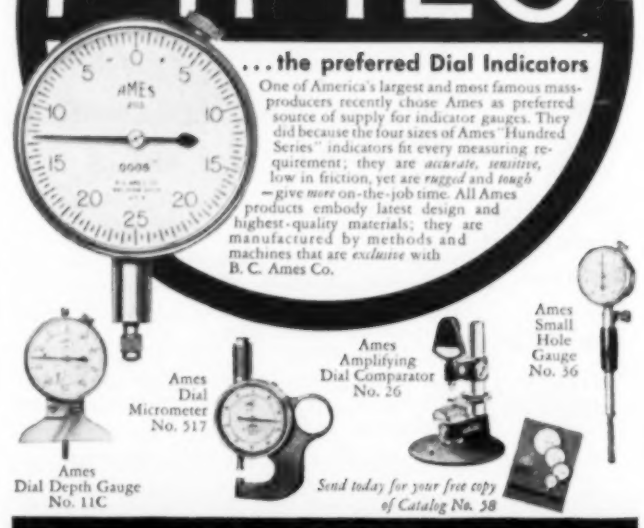
INVINCIBLE VACUUM CLEANER MFG. CO.
DOVER, OHIO

If you write maker identify as IEN - 12711

AMES

...the preferred Dial Indicators

One of America's largest and most famous mass-producers recently chose Ames as preferred source of supply for indicator gauges. They did because the four sizes of Ames "Hundred Series" indicators fit every measuring requirement; they are *accurate, sensitive,* low in friction, yet are *rugged* and *tough* —give *more* on-the-job time. All Ames products embody latest design and highest-quality materials; they are manufactured by methods and machines that are *exclusive* with B. C. Ames Co.

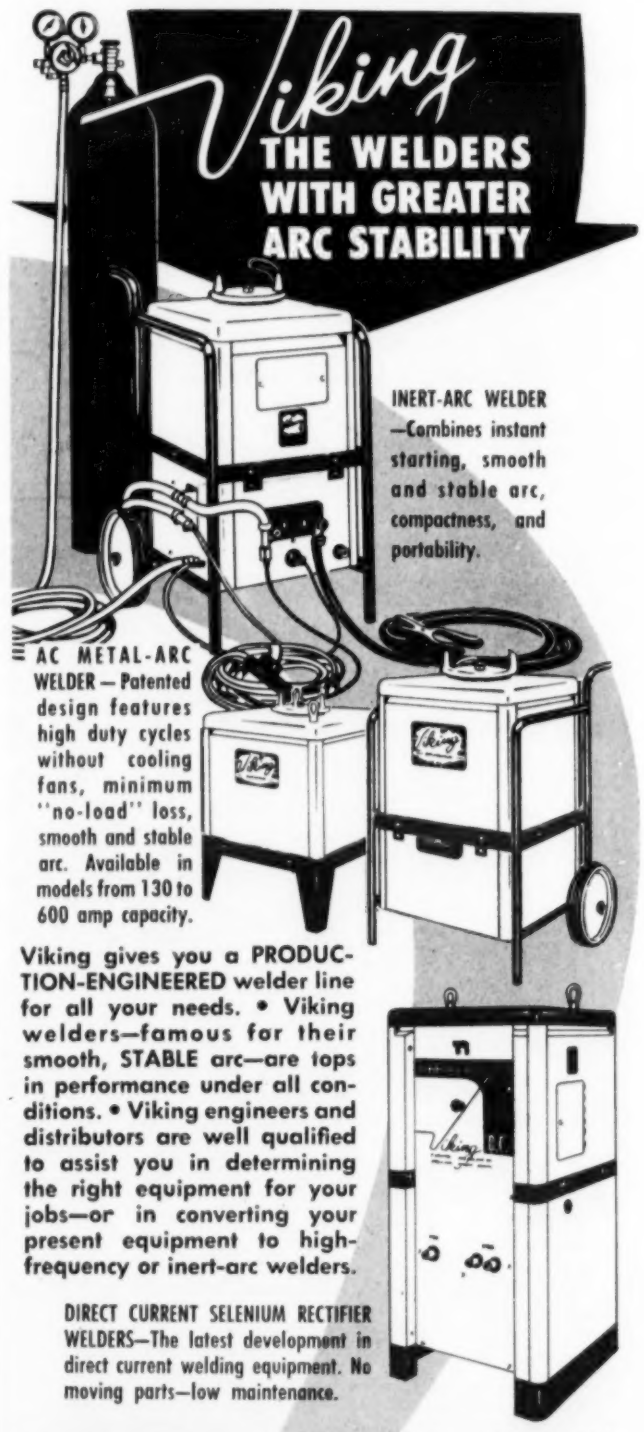


Send today for your free copy of Catalog No. 58

Representatives in principal cities. B. C. AMES CO. *33 Ames Street Waltham 54, Mass.*
Mfgr. of Micrometer Dial Gauges • Micrometer Dial Indicators

If you write maker identify as IEN - 12712

Viking
THE WELDERS WITH GREATER ARC STABILITY

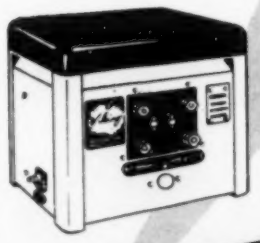


INERT-ARC WELDER —Combines instant starting, smooth and stable arc, compactness, and portability.

AC METAL-ARC WELDER — Patented design features high duty cycles without cooling fans, minimum "no-load" loss, smooth and stable arc. Available in models from 130 to 600 amp capacity.

Viking gives you a PRODUCTION-ENGINEERED welder line for all your needs. • Viking welders—famous for their smooth, STABLE arc—are tops in performance under all conditions. • Viking engineers and distributors are well qualified to assist you in determining the right equipment for your jobs—or in converting your present equipment to high-frequency or inert-arc welders.

DIRECT CURRENT SELENIUM RECTIFIER WELDERS—The latest development in direct current welding equipment. No moving parts—low maintenance.

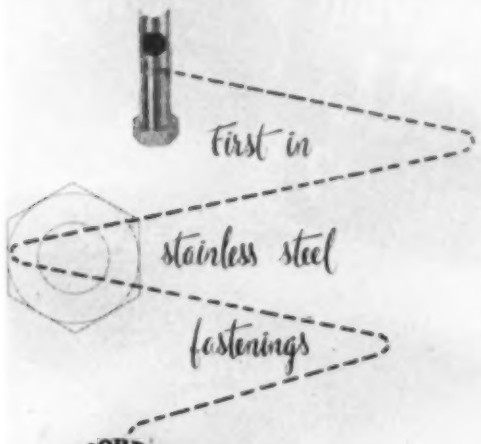


RAD-ARC-TROL—An automatic high-frequency arc starter and stabilizer for use on ANY MAKE of AC or DC welder. Model MR is used for light gauge metallic-arc welding. Model MRG converts your present welder to the Inert-arc Process. The gas regulating attachment is included in the unit.

Write for Complete Information on all Viking Welders

Viking
DIVISION OF PROGRESSIVE WELDER SALES COMPANY
3060 EAST OUTER DRIVE • DETROIT 34, MICHIGAN

If you write maker identify as IEN - 12714



ANTI-CORROSIVE METAL PRODUCTS

behind this symbol is an on-hand inventory of *more than 9,000 items and sizes* of stainless steel fastenings. Ready for immediate shipment, this stock is the largest and most complete in the industry. In addition, a production capacity for large or small quantities of special orders is at your service! A good reason – when you think of stainless steel fastenings – to think FIRST of Anti-Corrosive! *Send for Catalog 53V today!*

ANTI-CORROSIVE METAL PRODUCTS CO., INC.
Castleton-on-Hudson, New York

If you write maker identify as IEN - 12715

Electrolizing

ADDS 200% TO 800% LONGER LIFE
to metal parts affected by wear, abrasion or corrosion

Is your problem wear, abrasion or corrosion of metal parts? Then you will be interested in the facts and figures from major companies which conclusively prove that ELECTROLIZING increases part life 200 to 800%!

These manufacturers specify ELECTROLIZING for hydraulic equipment, precision instrument parts, fuel control components, gears, pumps, pistons, valves, shafts, impellers and other metal parts.

HERE'S A CASE IN POINT:

A manufacturer of fuel metering equipment submitted test parts to ELECTROLIZING in an effort to solve the related problems of wear and fretting corrosion. The following is a condensed report of their laboratory observations.*

"NO signs of CORROSION after 72-hour salt spray test per A.S.T.M. specification.

"NO signs of WEAR after 400-hour endurance test.

"NO signs of FRETTING CORROSION after 50-hour vibration test."

Repetitive tests resulted in ELECTROLIZING being specified on all bushings and shafts to prevent malfunctioning of the assembly.

Whether your problem is wear, abrasion, or corrosion, ELECTROLIZING can provide the solution. Our staff engineers are available for consultation without obligation.

Write for new booklet describing *ELECTROLIZING* and its advantages. **Name on request*

THE *Electrolizing* CORPORATION

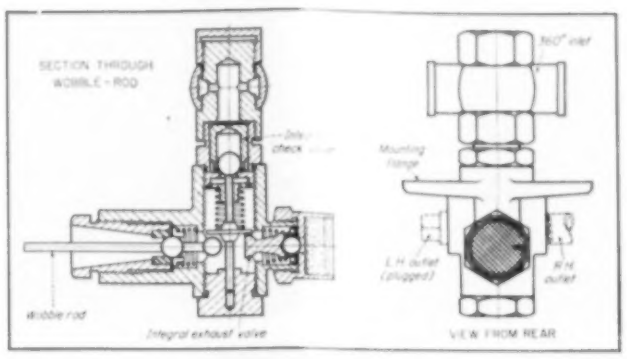
1505B EAST END AVENUE, CHICAGO HEIGHTS, ILLINOIS

Plants
Providence 1, R. I. 148 W. River St. — Cleveland 10, Ohio 1650 Collamer Rd. — Chicago Heights, Illinois 1505B East End Ave. — Los Angeles, Calif., 1406 East 15th St.

If you write maker identify as IEN - 12717

VALVE . . Pneumatic operating unit opened by spring backed wobble rod

Source: PANTEX MFG. CORP.
549-53 Roosevelt Ave., Pawtucket, R. I.



Exhaust includes muffler cap

Air inlet is through a ¼-in. swivel fitting near the top of this new Wobble-Rod valve. Outlet is at optional ¼-in. connections below the mounting flange at right angles with the wobble rod on one side and an integral exhaust opening on the other. The valve measures 3⅛ by 5 by 4⅝ inches. It weighs 2¼ pounds. It lists at $23.50.

The wobble rod can be moved up or down, side to side, or in any angular direction to provide unlimited freedom of motion by the actuating mechanism employed in the operation. Any increment of this motion presses an internal ball against the valve stem to move the stem and lift the valve ball from its seat. Air pressure then can flow to the valve outlet as long as the ball is unseated.

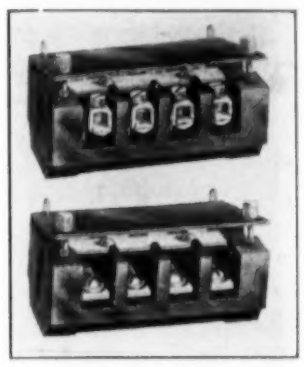
Releasing the ball by moving the wobble rod permits it to reseat. At the same time, the plate on the stem against which the wobble rod ball presses, acts to depress the semi-ball end of the wobble exhaust to release pressure that the valve has applied.

The valve ball rides inside a check cylinder above the valve seat. This cylinder rises to seal against back surge that may be imposed by the exhausting air. Construction is in non-corroding metals. There are no rubber or fiber seats or diaphragms in the assembly.

If you write maker identify as IEN - 12718

CONNECTOR . . Terminal blocks fitted with hinged protecting covers

Source: BUCHANAN ELECTRICAL PRODUCTS CORP.
225-A Highway #29, Hillside, N. J.



Note the covers

Covers are hinged on wire loops and are held in closed position by knurled head screws in these new blocks. Solderless or screw type terminals can be supplied. The blocks are molded CFG compound to meet Specification MIL-P-14. Other materials can be specified. Units are available with 4, 6, 8 and 12 circuits, plain or with numbered marking strips. Current rating is 35 amp. on 750 volts for the screw type, 50 amp. for the solderless type.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12719

Positive Rust Prevention, Faster Packaging with new CROMWELL FERRO-PAK*

Cromwell FERRO-PAK is a new, improved volatile rust inhibitor paper. It provides complete protection for ferrous metal parts and products.

Ferro-Pak paper releases an inhibitor vapor that seals out corrosion, even when parts are not in contact with paper. Inhibitor remains effective for maximum packaging life.

Economical Ferro-Pak eliminates greasing and other rust preventive methods. Strong, non-adhesive, harmless to handle.

**Made in compliance with Military Packaging Specification MIL-P-3420*

Cromwell PAPER COMPANY
4801 S. Whipple St.
Chicago 32, Illinois

For STORING and SHIPPING: Tools, Piston Rings, Office Machines, Aircraft Engine Parts, Valves, Gears, Bearings, Wire and Wire Products

For protecting metal work in process. For covering heavy machinery. As a separator in stacking metal parts.

ROLLS, SHEETS, BAGS, POUCHES, SHROUDS, TOTE BOX LINERS

All weights and sizes. Available in extra-strength, laminated and reinforced papers. Sold by leading paper houses.

If you write maker identify as IEN - 12720

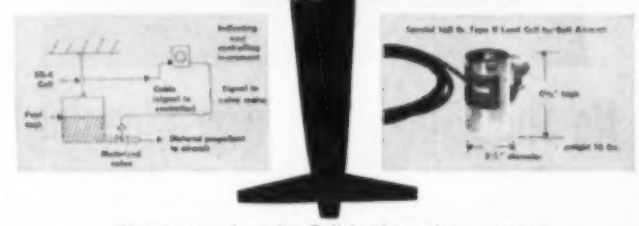
THE PROBLEM

For their rocket engine research and production, Bell Aircraft Corporation was designing a new instrumentation system. Their problem was finding a way to meter the propellant consumption remotely.

THE BALDWIN SOLUTION

The fuel feed tank is suspended from a cable attached to a Baldwin SR-4, 160 lb. load cell which supports the weight of the tank and fuel.

SR-4 DEVICES IN INDUSTRY . . .
USES UNLIMITED



This system benefits Bell in these three ways:

1. The fuel consumption can be indicated and controlled remotely because the only connection from the SR-4 cell to the instrument is through electric cable.

2. Because of special aluminum construction this cell resists corrosion by common propellants such as hydrogen peroxide and nitric acid provided that cell is washed off after any accidental contact with them.

3. The need for maintenance is virtually eliminated by the rugged construction and by the absence of moving parts.

The uses of SR-4 devices throughout industry are unlimited. For further information about how they might cut your costs and time for measuring loads, pressure or torque, please write Dept. 3113, Baldwin-Lima-Hamilton Corporation, Philadelphia 42, Pennsylvania.

TESTING HEADQUARTERS
BALDWIN - LIMA - HAMILTON
General Offices: Philadelphia 42, Pa. • Offices in Principal Cities

---

If you write maker identify as IEN - 12721

CUTTING COSTS WITH ALLMUL

"B&W ALLMUL Firebrick lasts 6 times longer"

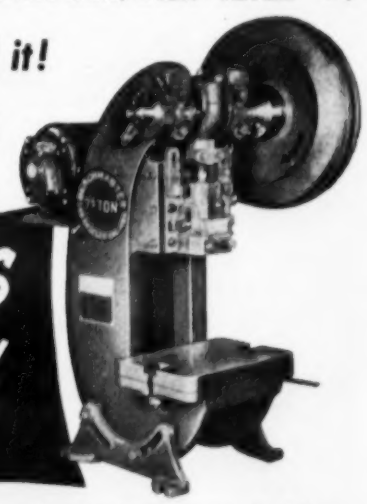
Semi-mullite brick bungs in the hottest part of a butt welding furnace spalled badly after six weeks. Allmul bungs in the same location were still going strong after 39 weeks—in better condition than the semi-mullite bungs after six weeks. Yet Allmul cost little more than the original semi-mullite refractory. As a result, Allmul is now used in uptake arches, uptake side walls and crossovers.

Bulletin R-29 gives all the facts on B&W Allmul. Write for your copy.

THE BABCOCK & WILCOX CO.
Refractories Division
GENERAL OFFICES: 161 EAST 42nd ST., NEW YORK 17, N. Y.
WORKS: AUGUSTA, GA.

If you write maker identify as IEN - 12722

You demanded it!
benchmaster
built it!



7½ TONS IN EVERY STROKE!

This moderately-priced punch press now gives you the *extra* tonnage capacity to easily handle jobs overloading your smaller presses. Massive, heavy-duty construction throughout, plus proven features that have made Benchmasters the world's favorite low-tonnage presses!

See the complete Benchmaster line today! Now available in 51 models! Literature available! Benchmaster Manufacturing Company, 1835 W. Rosecrans Ave., Gardena, California.

Also available:
BACK GEARED to provide the slow, powerful strokes for blanking, forming and deep drawing operations.
HALF-PRESS where unlimited shut height is needed!

benchmaster — World's largest manufacturer of small punch presses and mills.

If you write maker identify as IEN - 12723

No Shut-Down For Filter Cleaning!

Cuno's exclusive "comb-clean" action provides complete cleaning of the strainer element on the job—*without stopping fluid flow.*

Just an occasional rotation of the handle does the cleaning. The strainer element turns through the cleaner blades, combing all dirt from the strainer surfaces. Dirt particles fall to bottom of housing, where they can be drained off periodically.

As for application, remember, if you can pump it, Cuno can filter it. Write for more facts about the modern AUTO-KLEAN strainer. Cuno Engineering Corp., Dept. 6917A, Meriden, Connecticut. A.3.17

If you write maker identify as IEN - 12724

HIGH AND LOW TEMPERATURES

NEW BENCH-TYPE TEST UNIT

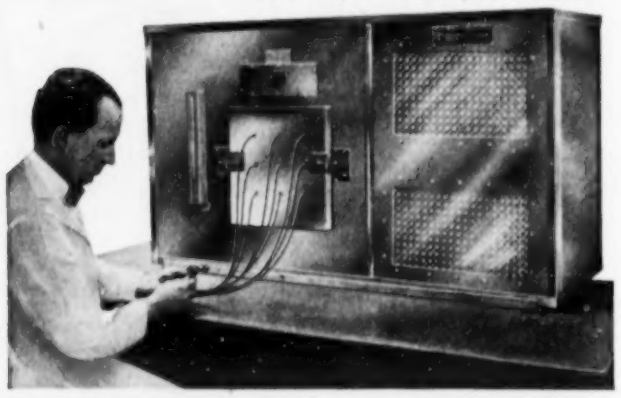
WEBBER

COMPLETE TEMPERATURE RANGE

TESTING UNITS

Combine high and low temperatures within the same cabinet with all controls self contained. Unit measures 50"x28"x20" with a testing chamber 12"x12"x12". Temperature range is from -80° F. to 185° F. Heat application is accomplished with reverse cycle refrigeration, which eliminates the hazards associated with open heating elements. A blower is provided for even distribution of temperatures and greater testing accuracy. Latch-type or hinge-type door optional. Accelerated pull-down to -80° in 30 minutes or less.

Write today for more complete information



INDUSTRIAL FREEZER DIVISION

WEBBER MANUFACTURING COMPANY, INC.

(Formerly Webber Appliance Co., Inc.)

3746 MADISON AVENUE - INDIANAPOLIS 3, INDIANA

If you write maker identify as IEN - 12725

One way to prevent stem leaks is to make sure the valves you buy have the best available packing. Experience has proved that a packing known in the valve industry as "jewett" gives excellent service. Jewett consists of long asbestos fibers woven around copper wire which is then re-woven around a lead core. The fibers are impregnated with graphite to prevent binding. This packing--especially the split-ring type used in O-B valves--has greater body than ordinary asbestos and graphite packing, and lasts longer. You'll find split ring jewett packing in all Ohio Brass valves.

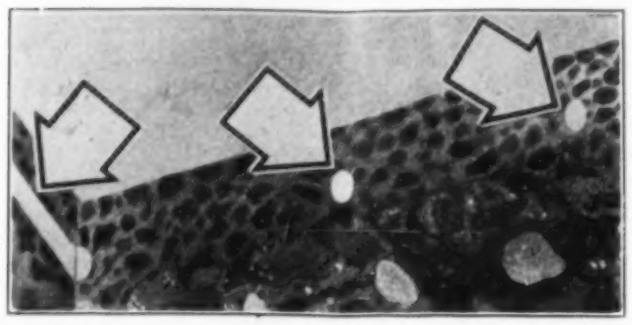
OHIO BRASS COMPANY MANSFIELD OHIO

Ohio Brass VALVES MANSFIELD OHIO

If you write maker identify as IEN - 12726

FLOORS . . Made of concrete with embedded heat dispersing aluminum

Source: FLASH-STONE COMPANY
3721-25 Pulaski Ave., Philadelphia 40, Pa.



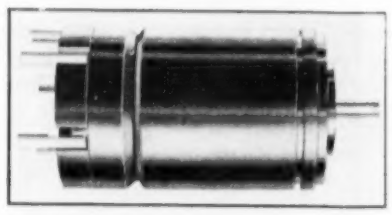
For hot work areas

Dynapakt, the company's previously developed mixture of graded rock, sand and cement, is now being employed with embedded aluminum rods for service where temperatures range as high as 2,000 deg. F. Heat is dispersed through the rods, which are embedded about 1 in. below the surface, to spread over a wide floor section and eliminate danger of hot spots. The floor is ready for use 24 hr. after it has been installed. It will take heavy industrial traffic.

If you write maker identify as IEN - 12727

CONTROL . . Servo equipment for precise remote positioning uses

Source: KEARFOTT COMPANY
1148-52 McBride Ave., Little Falls, N. J.



Catalog on request

Two transmitters and their associated control transformers have been added to the company's lines of Synchro equipment for operation on 26 or 110-volt 400-cycle ac. The transmitter measures 1.062 in. in diameter by 1.718 in. in length. The transmitter shaft is displaced proportionally to the input information to unbalance a circuit connecting to the servo motor that drives the control transformer.

This motor rotates the transformer until it reaches the same relative position as that occupied by the transmitter shaft. Maximum error limit is 7 minutes. An operator can turn a knob on a panel and a valve or a pointer will be moved through exactly the same arc at a remote position.

If you write maker identify as IEN - 12728

If you make, store, ship or handle porcelain enameled or glass products you will like the new Copeel strippable white coating plastic now made by Maas & Waldstein Co., 2130 McCarter Highway, Newark 4, N. J. The "cocoon" material is applied to $\frac{1}{16}$ in. in thickness by spraying or brushing. Then it is baked for 10 min. at about 350 deg. F. It remains in place to prevent marring the porcelain or glass and to minimize glass breakage. You pierce it with a knife and strip it off clean.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12729

A burr, a chip, oil, foreign particles in drilled, tapped or cored holes—all take a toll of assembly time and often mean a tearing down job, cleaning and reassembly after inspection.

You can eliminate these bugaboos by cleaning out all holes with the correct Mill-Rose brush—made for the job—of exact size—with the right selection of wire or bristle fill.

Made single or double spiral—for hand or power use—in sizes from .065" up and in every degree of stiffness to meet varied job requirements.

Write for descriptive bulletin or outline a problem where a Mill-Rose trusted-in-wire brush might be helpful to you.

HIGH PRECISION INDUSTRIAL BRUSHES TWISTED IN WIRE

The MILL-ROSE Company 1985 EAST 59th STREET CLEVELAND 3, OHIO

If you write maker identify as IEN - 12730

AA-267

IF you sell your products in rolls (like adhesive tape), or—if you use rolls in production (like printing or coating) then—**better rolls can build your profits** by reducing waste, by increasing production and by improving your products. Get the facts on Camachine roll slitters and rewinders, the **right** model for every material. Write today to

CAMERON MACHINE COMPANY
61 Poplar Street • Brooklyn 1, N. Y.

Camachines

If you write maker identify as IEN - 12731

It's tremendous FOR ALL INDUSTRIAL SNOW REMOVAL PROBLEMS

THE BROS SERIES "A" ROTARY SNOW PLOW

THIS SNOW PLOW + YOUR TRACTOR = FAST REMOVAL OF SNOW UP TO 8 FT. HIGH!

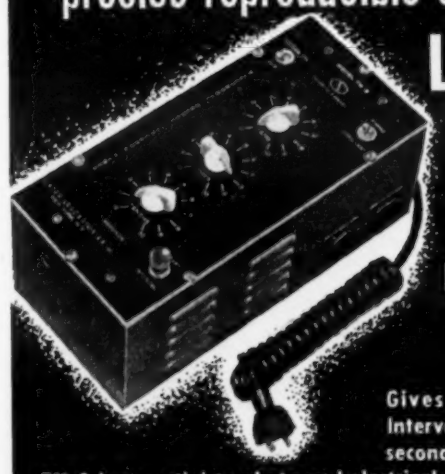
This rugged new plow chews up and hurls out snow at a rate of 3 to 4 tons per minute. It mounts easily on the front-end loader of your industrial wheel-type tractor, without drilling holes or adding braces. Same connections as loader bucket. It works fast and economically in plant yards, storage areas, parking lots, driveways and any area that's too tight a "squeeze" for big snowplow units. You can rotate casting chute through 180 degree arc. Specially designed rotor-rake chews up wet, heavy, "chunky" snow with uncanny ease. You lift the plow to get at high drifts just like you raise the loader bucket. See action pictures and complete specs in our new Series "A" ROTARY SNOW PLOW folder. Write for it today.

WM. BROS BOILER AND MFG. COMPANY

MINNEAPOLIS 14, MINNESOTA

If you write maker identify as IEN - 12732

for split second timing . . . precise reproducible control



LEKTRA TM-8

Electronic DECADE Interval Timer

$65.00

(no excise tax)

Gives 1,110 Timing Intervals (.1 to 111 seconds). The LEKTRA TM-8 is essential to photo and electrical lab work requiring split-second timing accuracy and instant reproductibility. Flexible . . . simple to operate in setting and duplicating intervals. Decade switches — calibrated in tenths, seconds and tens of seconds—are so connected that the total time is the sum of their readings.

FOR DARK ROOM . . . SPECIAL LAB WORK . . . COLOR PROCESSING. Versatility of the TM-8 adapts it for the widest range of timing applications.

Write for illustrated Catalog

A line of Electronic Timers and Synchronous Motor Timers

LEKTRA LABORATORIES, INC.

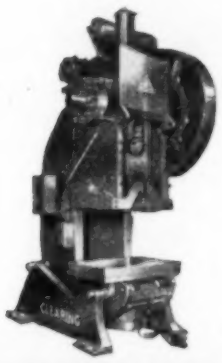
Manufacturers and Developers of Electronic Equipment

154 11th Avenue New York, N. Y.

If you write maker identify as IEN - 12733

The Operator Can Tell You— about *CLEARING O.B.I.'s*

Take a feature like the control cabinet. On a Clearing O.B.I. the selector switch is integral with the cabinet and mounted within easy reach of the operator. It's just one of the things that makes life easier when you specify Clearing.



Clearing Welded Steel O.B.I. presses from 45 to 200 tons

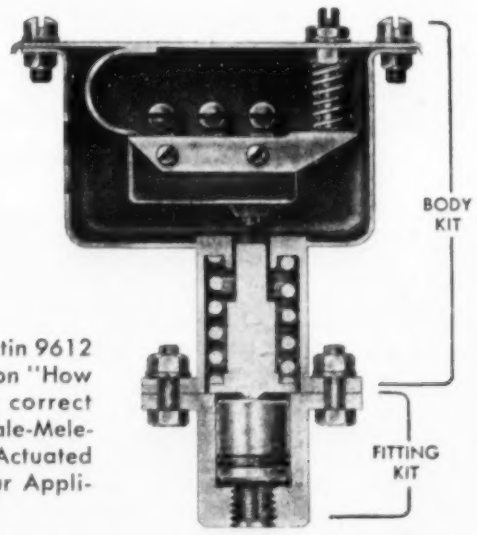
Write for Free Catalog

CLEARING MACHINE CORPORATION
6491 WEST 65TH STREET • CHICAGO 38, ILLINOIS
HAMILTON DIVISION, HAMILTON, OHIO

If you write maker identify as IEN - 12734

MODEL 9612 PRESSURE SWITCH

It belongs where millions of cycles are expected, on production equipment, where service troubles are taboo. The original equipment manufacturer can profit by these additional advantages: Extreme flexibility — the same body kit converts to an infinite number of service conditions by simply changing fitting kits. High proof pressure even at low settings—protection against surge damage. No unwanted actuation from vibration or harmless line surges. Switch may be mounted in any position — no levelling or balancing required. Mounting bracket adjustable up and down and 360° around the neck of the switch. Tamperproof external adjustment. All this and more at a low price, due to production savings without sacrifice of quality.



Write for bulletin 9612 and the chart on "How to select the correct model Barksdale-Meletron Pressure Actuated Switch for your Application."

BARKSDALE VALVES

5125 Alcoa Avenue, Los Angeles 58, Calif.

If you write maker identify as IEN - 12736

CONVEYING . . Reversible belt unit with motor drive for loading, unloading

Source: HARRY J. FERGUSON CO.
115 West Ave., Dept. IEN, Jenkintown, Pa.

Double End Booster

Two tubular frames are hinged between supporting three-wheel caster trucks and the main structural frame of this new double end conveyor. The main frame carries power and idler rolls to mount a belt. Hand operated hydraulic jacks, on the two trucks, permit raising and lowering the ends independently of each other.

The truck was designed initially to load and unload freight and express cars. It is available in 11, 13 and 15-ft. lengths with a 16-in. belt and a ⅜-hp. motor.

If you write maker identify as IEN - 12737

HOSE . . Wire braided air hose for heavy duty construction uses

Source: BOSTON WOVEN HOSE & RUBBER CO.
27-31 Hampshire St., Cambridge 39, Mass.

Give it the tough jobs

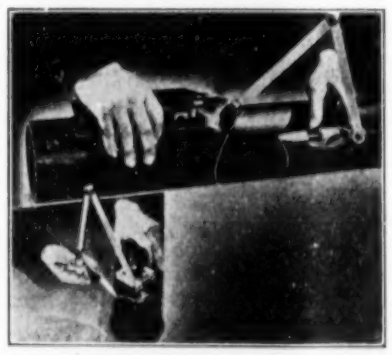
Sizes range from ⅜ to 2½ in. in inside diameter of the new Concord Yellow Jack air hose. Pressure rating for the smallest size is 2,000 lb. and for the largest is 250 pounds. The ⅜ to 1-in. sizes are available in 250-ft. units. The next two larger are in 100 ft. lengths and the two largest in 50 ft. lengths. The first five have one braid of wire reinforcement. The other three have two braids.

Construction includes an oil resistant tube, the reinforcing braid and a bright yellow abrasion resistant cover. List price per hundred feet is $73.30 to $412.

If you write maker identify as IEN - 12738

LAYOUT . . Contour tool to mark pipe for angle assembly

Source: CONTOUR MARKER CORP.
1841-45 Compton Blvd., Compton, Calif.



Saves time and pipe

Soapstone, carried in an articulated arm in this new marker, is set for angle and pitch at a dial. Then it is moved in its restrained path around the pipe while the curved base is held in place. The pipe is ready for assembly when it has been cut to the outline. Two models apply on pipe from 1½ to 18 in. and from 16 to 48 inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12739

penco LOCKER LOCKS ITSELF!

UNIQUE PATENTED FEATURE!

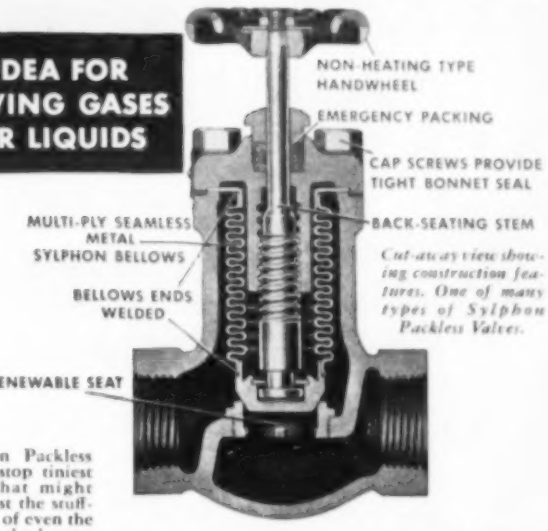
Penco Steel Lockers are equipped with the finest automatic locking device—a feature that "forgives" forgetfulness, prevents thefts, permits authorized locker inspection without occupant's presence! Penco's 2-WAY ACTION gives choice of automatic or manual locking—a feature you'll want!

A Complete Line of Steel Lockers—Send for Catalog

PENN METAL *Corporation of Penna.* 85th YEAR OF SERVICE
80 OREGON AVE., PHILA. 48, PA.

If you write maker identify as IEN - 12740

IDEA FOR SAVING GASES OR LIQUIDS



Cut-away view showing construction features. One of many types of Sylphon Packless Valves.

Sylphon Packless Valves stop tiniest leaks that might seep past the stuffing box of even the best packed type valve. A rugged, dual-ply seamless metal bellows replaces the customary stuffing box; ends leakage . . . provides vacuum protection. Bellows seals valve stem against corrosive, dangerous or inflammable liquids or gases. Extra protection against fire or other damage. Because Sylphon Packless Valves have no packing, re-packing problems and expense eliminated. Wide range of sizes and types—some for pressures up to 500 lbs. and temperatures up to 1000°F. Used on pipelines carrying oil, gasoline, other volatile liquids or vapors. Write for Bulletin VN-813.

Robertshaw-Fulton CONTROLS COMPANY

FULTON SYLPHON DIVISION
KNOXVILLE 1, TENN.

If you write maker identify as IEN - 12741

DO YOU NEED BOTH ROUND and FLAT Steel Strapping?

Buy both from U·S·S Gerrard . . . and save!

● If you use both Round and Flat Steel Strapping in your plant, you will find that *single source* purchasing from U·S·S Gerrard can save you time, work and money.

You can save time and simplify your paper work by ordering both types of steel strapping, in whatever sizes you require, on a single purchase order.

You can save on freight charges by combining shipments of your Round and Flat Steel Strapping in a single carrier.

Contact a U·S·S Gerrard engineer for information about advantages of Gerrard Round and Flat Steel Strapping in specific applications. His advice is available free of charge. Send for a free copy of *Blue Book of Packaging* and literature about Gerrard's new Flat Steel Strapping.

GERRARD STEEL STRAPPING DIVISION, UNITED STATES STEEL CORPORATION
4701 South Richmond St., Chicago 32, Ill.

U·S·S GERRARD
Round Steel **STRAPPING** *Flat Steel*
UNITED STATES STEEL

If you write maker identify as IEN - 12742

ALUMINUM LOUISVILLE

STAGES *20 Inches Wide*
PLANKS *12 Inches Wide*

Light weight durable Contractor's Equipment designed for heavy duty service. Made of extruded aluminum rails and rungs securely riveted with the Louisville Safe Weight method for strength and serviceability. Aluminum channel decking ensures light weight—knurled surface provides sure footing.

ALSO COMPLETE LINE OF LADDERS
SEE YOUR DEALER OR WRITE US

LOUISVILLE LADDER COMPANY
1101 W. Oak St. — Dept. 2A — Louisville 10, Ky.

If you write maker identify as **IEN - 12743**

YOU BENEFIT 4 WAYS
when you insist on this mark

TRADE CU MARK

CURTIS UNIVERSAL JOINTS

1. ***Availability*** — 14 sizes always in stock; ⅜" to 4" O.D., bored or unbored hubs.
2. ***Quality Standards*** — Curtis Joints set the standards for the industry; *uniform* high quality provides complete protection.
3. ***Simplicity*** — fewer parts, simpler construction, easy assembly and disassembly.
4. ***Constant Tests*** — catalog figures substantiated by constant tests on production joints in the factory for torque, tension and compression.

PLUS — facilities and engineering skill to handle special specification jobs always available.

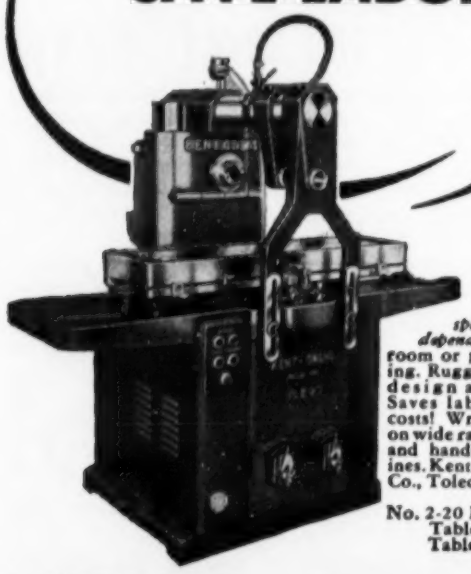
Not sold through distributors: write direct for free engineering data.

CURTIS UNIVERSAL JOINT CO., INC.
7 BIRNIE AVENUE
SPRINGFIELD, MASS.
Trade CU Mark
As near to you as your telephone

A MANUFACTURER OF UNIVERSAL JOINTS SINCE 1919

If you write maker identify as **IEN - 12744**

MILL IT *faster..* SAVE LABOR!



Kent-Owens advanced features mean *speed, accuracy* and *dependability*... in tool room or production milling. Rugged . . . simple in design and operation. Saves labor . . . reduces costs! Write for bulletins on wide range of hydraulic and hand-operated machines. Kent-Owens Machine Co., Toledo, Ohio.

No. 2-20 Milling Machine
Table, 42" x 12"
Table travel, 20"

KENT-OWENS
Milling Machines

If you write maker identify as **IEN - 12745**

NOW!

Prep-pik-l
PHOSPHORIC ACID PICKLING PROCESS

Consider these Advantages

N.C.Co.
METALPREP
GALVAPREP
LYTANITE
PREP-PIK-L
PREP-N-COTE
Metal Conditioning Rust Removing Phosphatizing products for STEEL, ALUMINUM, ZINC, CADMIUM, etc.

For Complete Information, Send for Bulletin Form 51-3A

- Simultaneous Pickling and Phosphatizing in One Bath
- No Plant Corrosion Trouble from Fumes
- Less Floor Space for Pickling
- Meets Government Specifications
- A Very Effective Remover of Rust and Heat Scale

NEILSON CHEMICAL CO.
MANUFACTURERS OF METALPREP

2682 Tecumseh Road Windsor, Ontario — 6584 Benson St., Detroit 7, Mich. — 3411 Union Pacific Ave. Los Angeles 23, Calif.

If you write maker identify as **IEN - 12746**

TESTING . . Circuit loader to check overload relays and breakers

Source: MULTI-AMP CORPORATION
119-23 Cross St., Harrison, N. J.

Booklet on request

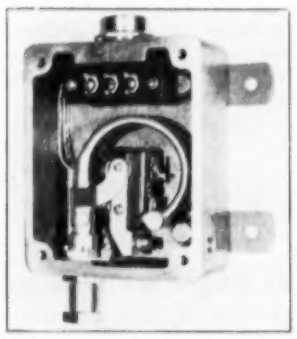
Six stages of calibrated current output are provided by this new design of the Multi-Amp calibrating instrument for overload relays and circuit breakers. All start at zero. The lowest maximum is 10 and the highest is 1,000 amperes. The new unit is known as No. 1005/336. It represents further development of the instrument previously described IEN-6473-53.

A test is made by connecting an overload relay, or the trip coil on a circuit breaker, to the instrument's output terminals. A dial is adjusted, in stepless increments, to the current value at which the connected unit is rated by its manufacturer. The operator then watches the instrument's ammeter and timer to check against the maker's published time-current curves.

If you write maker identify as **IEN - 12747**

SWITCH . . Pressure operated for use in signal and control circuits

SOURCE: BARKSDALE VALVES
5118-22 Alcoa Ave., Los Angeles 58, Calif.



Accessible design

Bourdon tube actuates a sensitive snap acting switch to operate a warning or control circuit when air or liquid pressure varies beyond predetermined limits in this new Meletron Model 314 switch assembly. Six units in the line provide for maximum pressure at 500 to 12,000 pounds. Adjustment range is from 15 to 10,000 pounds.

The circuit can be set to open or close on increasing or decreasing pressure. Standard setting for "on-off" operation is in any range between 10 and 2,000 lb. depending on the switch class. A skeleton assembly is available, in addition to the complete unit illustrated. It is known as Model 304.

If you write maker identify as **IEN - 12748**

Decorative lawn furniture, office equipment housings, corrosion proof containers, truck body panels, counter tops, siding for buildings are random points for application of a new laminate made of metal and vinyl plastic. Various manufacturers are experimenting with it now. Naugatuck Chemical Division, United States Rubber Co., 1230 Sixth Ave., New York 20, N. Y., is making it of 18 to 34-gage steel or aluminum. The vinyl film thickness is 0.002 to 0.02 inch. The sheet can be sheared, drilled punched, bent and drawn.

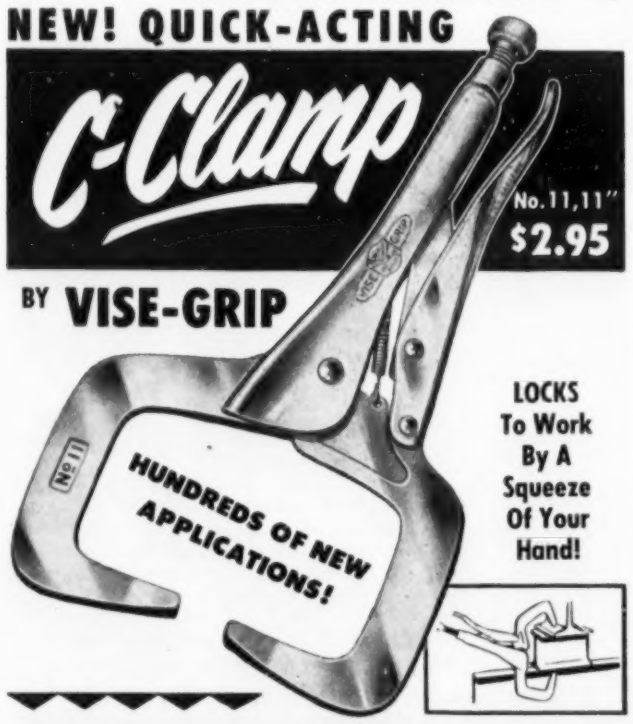
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 12749**

NEW! QUICK-ACTING C-Clamp

No. 11, 11" $2.95

BY **VISE-GRIP**



LOCKS To Work By A Squeeze Of Your Hand!

At last, a C-Clamp that adjusts to the RIGHT opening before use. Then clamps to the work by a squeeze of the hand. Locks with *tremendous grip!* Simply hold work with one hand, apply Clamp with the other. Work stays *in alignment.* Jaw adjustment 0" to 3¾". See your supplier, or write for complete descriptive literature.

Made Only By Petersen Mfg. Co., Dept. IE-11, DeWitt, Nebr.

If you write maker identify as **IEN - 12750**

The Colson Universal Drum Truck

Makes LIGHT of Heavy LOADS

Handling drums or barrels the COLSON Universal Drum Truck lets one man do the work of two. Any size container may be locked between the adjustable climb hook and pick-up tips. COLSON'S leverage lift prevents strain. Even heavy loads move easily on the 10" steel disc wheels with cushion rubber tires.

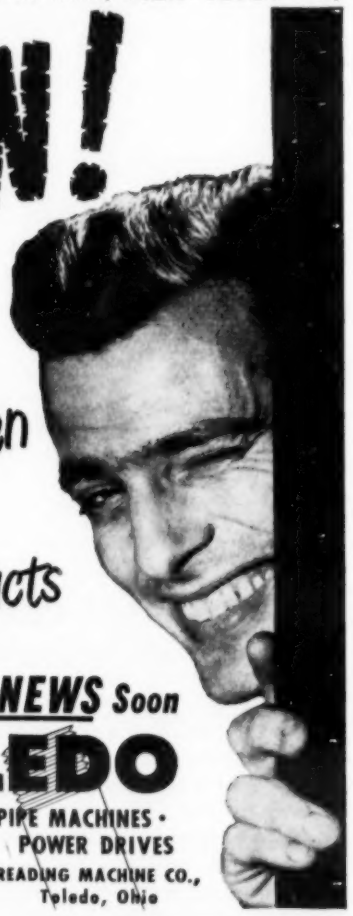
Other time and labor-saving COLSON Materials-Handling equipment includes hand trucks, platform trucks, Lift-Jack systems, and wheels and casters for every industrial application.

Write for Free Catalog on Colson Materials-Handling Equipment

THE COLSON CORPORATION
ELYRIA, OHIO
CASTERS • LIFT-JACKS • INDUSTRIAL TRUCKS

If you write maker identify as **IEN - 12751**

WOW!



I've just seen the new Toledo Products

Watch for BIG NEWS Soon from TOLEDO

PIPE TOOLS • POWER PIPE MACHINES • POWER DRIVES

THE TOLEDO PIPE THREADING MACHINE CO., Toledo, Ohio

If you write maker identify as **IEN - 12752**

Ames PORTABLE HARDNESS TESTERS

Show the exact hardness of your metals before and after heat-treating, to reduce tool wear and breakage and to speed up production.

Ames Portable Hardness Testers are light in weight and are carried to the work. Tests are easy to make and accurate, requiring no skill.

Ames Portable Testers are used to test flats, rounds, strip, tubing, wire, etc., without cutting off specimens. Saws, gears, knives and large irregular shapes are tested while assembled. Readings are direct in the Rockwell Scales.

Send today for interesting folder, "Rockwell Hardness Testing Made Easy"

AMES PRECISION MACHINE WORKS
Waltham 54, Mass., U.S.A.

If you write maker identify as IEN - 12753

HYDRAULIC Oil
Fluid Power
CYLINDERS

designed to operate at pressures up to 1500 p.s.i.

single acting
capacity to 24 tons
five types of mountings

double acting
capacity push stroke
1½ to 28 tons
capacity pull stroke
1 to 25 tons
six types of mountings

telescopic
capacity up to 18 tons

ASK FOR YOUR COPY CATALOG H-7

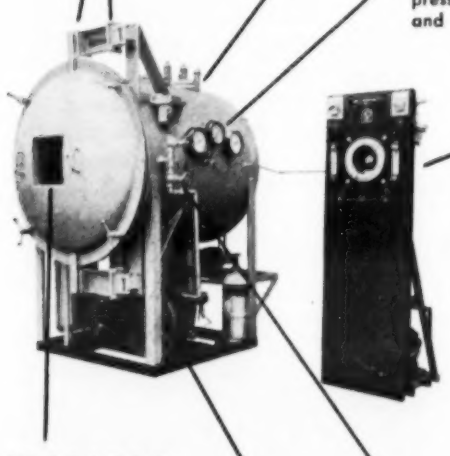
PRODUCTS PREFERRED BY CUSTOMER ACCEPTANCE

THE COMMERCIAL SHEARING & STAMPING CO.
• YOUNGSTOWN, OHIO •

HA-45

If you write maker identify as IEN - 12754

it's easy—and SAFE ...to bottle a bang! with a Tenney EXPLOSION CHAMBER



...the difference is Design

In this 4′ dia., 5′ long chamber you can simulate the effects of explosions of *any* predetermined magnitude at *any* altitude to 80,000 feet—with maximum accuracy and safety. Using commercial Butane gas, mixed by blower and fan, explosions are ignited by a spark and controlled (manually or automatically) throughout all phases of synthesis and evacuation. For maximum versatility and action tests, two 100-point terminal pads (25 amps., 230 volts AC), as well as two hand turning shafts, are provided as accessories.

Control of explosions is only part of Tenney's experience in designing and building precision atmospheric test equipment. All types of Tenney environmental testing chambers—temperature, humidity, altitude, vacuum provide the most accurate means of predetermining behavior of products under unusual conditions. From the early days of this now-vital industry, Tenney engineers have been meeting and solving problems by imaginative design and skilled craftsmanship. "Talk it over with Tenney."

For further information and bulletin write:

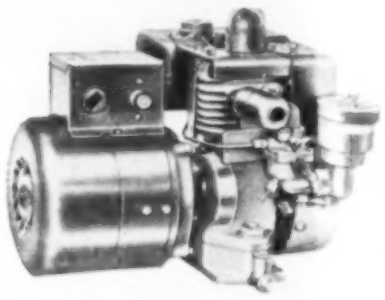
Tenney ENGINEERING, INC
Dept. C, 26 Avenue B, Newark 5, N. J.
3345

Plants: Newark, N. J., Union, N. J., and Baltimore, Md.
Los Angeles Representative: GEORGE THORSON & CO.
Engineers and Manufacturers of Automatic Environmental Test Equipment

If you write maker identify as IEN - 12756

GENERATOR . . Engine driven ac., for utility, 1,000 watts on 110 volts

Source: UNIVERSAL MOTOR CO.
492-96 Universal Drive, Oshkosh, Wis.



Single phase

Weight is 95 lb. for this new Model-1050 engine driven generator. It is a self-contained assembly with two 110-volt twist lock outlet receptacles to plug in lights or appliances. Type B is assembled for manual starting. Type ES is equipped with electric starting.

The engine employs a flywheel magneto, vented blower housing. It is supplied from a 3-qt. gasoline tank and feeds through a float type carburetor. Speed is controlled by a mechanical governor. A muffler is included. Operation is at 3,600 rpm.

If you write maker identify as IEN - 12757

ELECTRIC CIRCUITS . . Conductor is bonded to base in specified outline

Source: ERIE RESISTOR CORP.
642 W. 12th St., Erie, Pa.

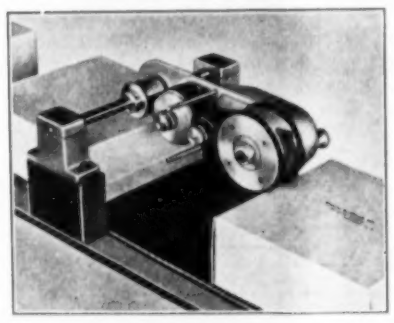
No chemicals are required

Patent has been applied for to cover the company's new process of embossing copper foil in laminated Bakelite sheets with the depressed portions representing a desired wiring circuit. After this operation, which is performed during the curing process for the Bakelite, the unwanted part of the copper foil is removed mechanically. The company is prepared to apply the process to produce specified electric circuits, particularly for electronic applications.

If you write maker identify as IEN - 12758

MARKING . . Roll attachment prints on containers riding a conveyor

Source: ADOLPH GOTTSCHO, INC.
6-D Terminal Road, Hillside 5, N. J.



Mounts on conveyer

New design of the Rolacoder 401 has resulted in simplified construction, compared with the original unit. The new assembly employs a felt ink roller with an internal ink reservoir. The ink feeds to a doctor roll and from there to the marking roll which carries interchangeable type plates. Floating action of the complete unit assures uniform marking as the work moves along a conveyor.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12759

Tiny parts for the DC-6 get THOROUGH check-up with FLASH-O-LENS

Small parts for the hydraulic system of the famous Douglas DC-6 are inspected for symmetry with FLASH-O-LENS—the handy device that *lights* the work and *magnifies* it.

It will pay *you* to put FLASH-O-LENS to work on your inspection jobs. Built-in bulb throws light *only* on field of vision—*not* in worker's eyes. Accurately ground lens gives sharply detailed enlargement.

Write for free descriptive literature on battery-operated and plug-in types.

E. W. PIKE & COMPANY
492 NORTH AVE. ELIZABETH, N. J.

If you write maker identify as IEN - 12760

BRUNING ELECTRIC ERASER

Saves hours of work... Protects valuable drawings

ERASER CAN'T FLY OUT . . . valuable drawings are safe with a BRUNING Electric Eraser. Exclusive *7-inch* eraser feeds through hollow shaft — can't fly out and let ferrule gouge paper.

SAVES TIME . . . adds extra hours of working time by eliminating tiresome, finger-cramping manual erasing.

RUNS COOL AND QUIET . . . permanently lubricated bearings mean no overheating in steady operation, are mounted in rubber for vibration-free performance. Only one moving part.

EASY TO USE . . . lightweight aluminum housing fits fingers like a pencil. Eraser is extended or replaced in seconds.

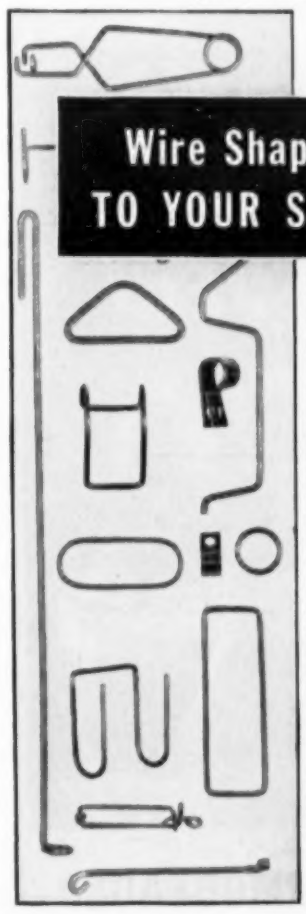
Phone or write Bruning—there's an office near you—for more facts and figures on how to save time and tempers with Bruning Electric Eraser. CHARLES BRUNING COMPANY, Dept. R113, 4700 Montrose Avenue, Chicago 41, Illinois.

A-3-3

BRUNING
Everything for the Engineer and Draftsman

If you write maker identify as IEN - 12761

Wire Shapes and Forms TO YOUR SPECIFICATIONS



● Your wire forms are produced fast, accurately and at low cost with Sommer mass-production methods.

Speedy, automatic plating equipment handles either large or small assemblies. Popular new Zinc Iridite process adds a bright, durable, economical finish.

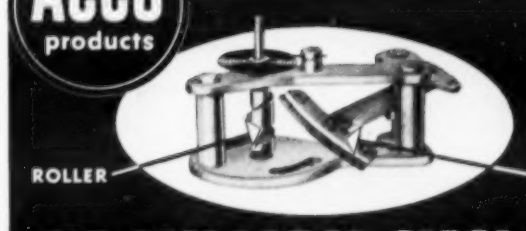
Sommer offers complete forming, stamping, cut-threading and butt-welding services. Let us work with you in designing and producing any wire shapes or forms needed for your defense contracts. Send sample, blueprint or drawing—see how Sommer can save you time and money.

SOMMER METALCRAFT CORPORATION
300 POSTON DRIVE
CRAWFORDSVILLE, INDIANA

If you write maker identify as IEN - 12762

ACCO products

HELICOID GAGES



75 MILLION CYCLES No Appreciable Wear

HELICOID Gages...

No Gears, No Teeth—Break-down test by U. S. Testing Co. showed no appreciable wear after being pulsated 1200 times per minute for 75 million cycles.

Retain Original Accuracy—Movement releases cam from roller at maximum dial reading, remeshes instantly. HELICOID Gages retain original accuracy longer, last longer, cost less per gage per year.

Many sizes, Many styles—For vacuum, pressure, or compound service.

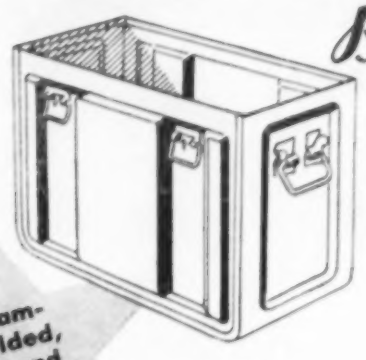
ACCO See distributor or write for CATALOG G-2

HELICOID Pressure • Vacuum GAGES

HELICOID GAGE DIVISION
AMERICAN CHAIN & CABLE
927 Connecticut Avenue • Bridgeport 2, Connecticut

If you write maker identify as IEN - 12763

Steel SHOP and TOTE *Boxes*



ONLY 79¢ EACH*

Seam-welded, oil and water tight

*in 5000 lots, F.O.B. Michigan City, Indiana

17½" long x 8" wide x 13" deep

(Inside Dimensions)

Stubborn insistence on "brand new" tote boxes may mean that you are paying for 4 boxes but getting only one. Thousands of manufacturers have been using these oil and water-tight steel boxes for years, at a great saving. You, too, can save! Just tell us how many you need. We'll give you the lowest prices.

BARNES and SMITH CORPORATION
6521-A W. State Street • Milwaukee 13, Wis.

If you write maker identify as IEN - 12764

Model-144 THERMOBEADER

for single edge beading of SHEET PLASTIC

This new unit beads faster with improved uniformity to bring greater economy to any straight edge plastic beading operation. Interchangeable dies are available for producing nine different, standard size beads on sheet plastic rolls, blanks or strips and unit accommodates thicknesses from .005" to .020". New Pyrometer temperature control AUTOMATICALLY maintains dies at the most efficient operating temperature at all times. The pre-heating die is now located in the same tilting holder as the beading die for maximum accessibility. New enlarged blower has triple the capacity of the older model to provide faster chilling of freshly formed bead. Length of material guide has been increased 50% for faster feeding and greater accuracy. These features, together with many other improvements, make the new Taber Thermobeader the most modern piece of equipment of its kind on the market. Duplex model, for simultaneously beading two edges, is also available.

The TABER LINE of PLASTIC FORMING EQUIPMENT also includes:

★ CYLINDER MAKER ★ CYLINDER BEADER
★ CREASER ★ FOLDER ★ DRAW PRESSES

MAIL COUPON FOR FREE LITERATURE

Taber **INSTRUMENT CORPORATION**
SECTION 15
111 Goundry St., North Tonawanda, N. Y.

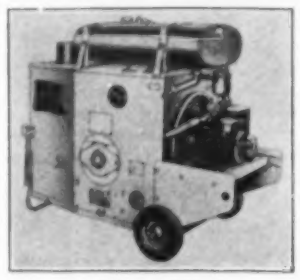
☐ Please send me booklet on Taber Single Edge Beader
Please send me booklet on Taber ☐ Cylinder Maker
☐ Cylinder Beader ☐ Creaser ☐ Folder ☐ Draw Presses

NAME .....
COMPANY .....
ADDRESS .....
CITY ..... ZONE ..... STATE .....

If you write maker identify as IEN - 12766

HEATING . . Portable space unit burns gasoline, heats, circulates air

Source: AMERICAN AIR FILTER CO.
1822-26 Third Ave., Moline, Ill.



Model GT-3083

Drying and curing of materials, thawing frozen areas and equipment, preheating engines, ventilating and heating manholes, spot heating workers and storage vessels, temporary building space heating, are all examples for application of this recently improved portable Herman-Nelson heater.

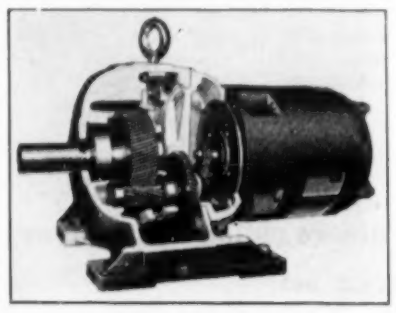
The gravity burner fires into a combustion chamber and finned stainless steel heat exchanger. Products of combustion are vented to the outside through a rear connection. Ventilating air is forced around the heat exchanger by a blower driven by a Briggs and Stratton gasoline engine. Delivery rating for the heated air is 2,000 to 2,400 cfm. with temperature rise at 127 deg. F.

A **safety device** limits the heat rise to 225 deg. F. A second safety control shuts off the burner if the blower engine fails. Heat rating is from 100,000 to 385,000 btu. per hour. Air delivery is through one or two duct connections measuring 12 in. in diameter. Two canvas ducts, 12 ft. in length, are supplied. Dimensions are 55 by 32 by 41 inches. Weight is 350 pounds.

If you write maker identify as IEN - 12767

MOTOR . . Geared head design, to specified operating characteristics

Source: CENTURY ELECTRIC CO.
1804-8 Pine St., St. Louis 3, Mo.



Bulletin 4-1P31

Rating is 1 to 15 hp. in the company's new Gearmotor line. Included are ac. and dc. motors for single, multiple, or variable speed operation with open, splash proof, totally enclosed and explosion proof construction. Operation can be specified with normal or high torque or high torque combined with slip characteristics to suit given loads. Single, double or triple reduction is available in the head.

Steel gears are heat treated for surface hardness combined with tough body construction. Mounting is on ball or roller bearings in a sealed housing so the gears operate in oil splash without frame leakage. A load brake can be specified for quick stopping.

If you write maker identify as IEN - 12768

Appliance White to touch up white enamel equipment, Flat Black for wrought iron, Clear Plastic to protect chromium, hardware, electric appliances, are new in the pressure spray packaged line by Sheffield Bronze Paint Corp., 17812-16 Waterloo Road, Cleveland 19, Ohio.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12769

SENSATION of the PHILADELPHIA MATERIALS HANDLING SHOW

THE NEW LOW COST OVERHEAD CONVEYOR of revolutionary design for loads up to 60# per foot

CHAINVEYOR

We can't begin to adequately describe the advantages of Chainveyor in limited space. Simplicity of design—Reduction of unnecessary bulk and weight—Full ball bearing chain—15" radius curves—The only conveyor system with chain and curves scientifically heat-treated to "file hardness" to triple the life—Simple, rugged, positive, sprocket tooth drive—So easy to install that half of our buyers do it themselves—and *the price is most interesting.*

If your requirements fall within its capacity, send for our new catalog giving complete information.

Distributors in principal cities

United States Spring & Bumper Co.
4951 Alcoa, Box 2475 Terminal Annex Los Angeles 58, Calif

If you write maker identify as IEN - 12770

POSITIVE ACTION UNDER ALL CLIMATIC CONDITIONS

For Adverse Environmental Conditions . . . . . Specify **HAYDON'S** *New Hermetically Sealed Precision Snap Switches*

This hermetically sealed precision snap switch is the answer where sand, dust, ice, humidity, oil, grease, water or fungus cause ordinary switches to fail.

Here is the story on the Haydon hermetically sealed snap action switch:

1. Smallest hermetically sealed switch on the market
2. Longer life
3. High contact pressure — resistant to vibration
4. Actuator pin bonded in specially developed silicone (like a shock mount)
5. Available in single pole, double throw — two-circuit type or double pole, double throw. (DPDT is slightly larger.)
6. Interchangeable mounting-wise with certain other widely used unsealed switches.
7. Sealed construction assures positive operation under practically all climatic conditions (from −70°F to +200°F)

Currently Being Used in Aircraft Applications

Send for descriptive bulletin

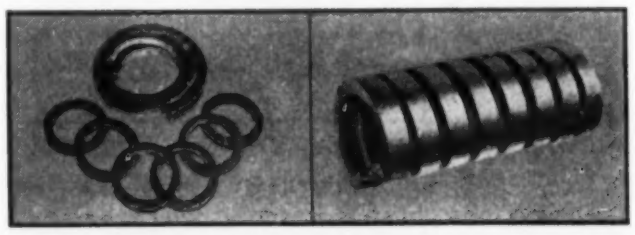
HAYDON SWITCH CO. 232 NORTH ELM ST., WATERBURY, CONN.

If you write maker identify as IEN - 12771

Standardize...and save! ...on R/M's BIG 7 packing types

When you standardize on R/M's new basic line of just seven field-tested packing types, you *save* by lowering your inventories, *save* by simplifying your ordering, *save* by reducing your downtime. R/M's "Big 7" Packing Types cover 95 percent of all packing needs—all but the very rarest packing applications. Your plant's needs can probably be met with just three or four. Take advantage of this really revolutionary packing development. Your distributor has the full story.

Here's the story on TYPE 1



R/M Universal Plastic Packing and "versi-pak"®

In Universal Plastic Packing, R/M has combined asbestos fiber and graphite with lubricant and binder. 1840-A is a basic universal packing. In 1840-C the binder has been varied so that the material is highly oil resistant. In 1840-D mica is used instead of graphite so that the packing will be sanitary for food processing equipment. These packings are recommended for circulating, reciprocating and centrifugal pumps, including boiler feed pumps.

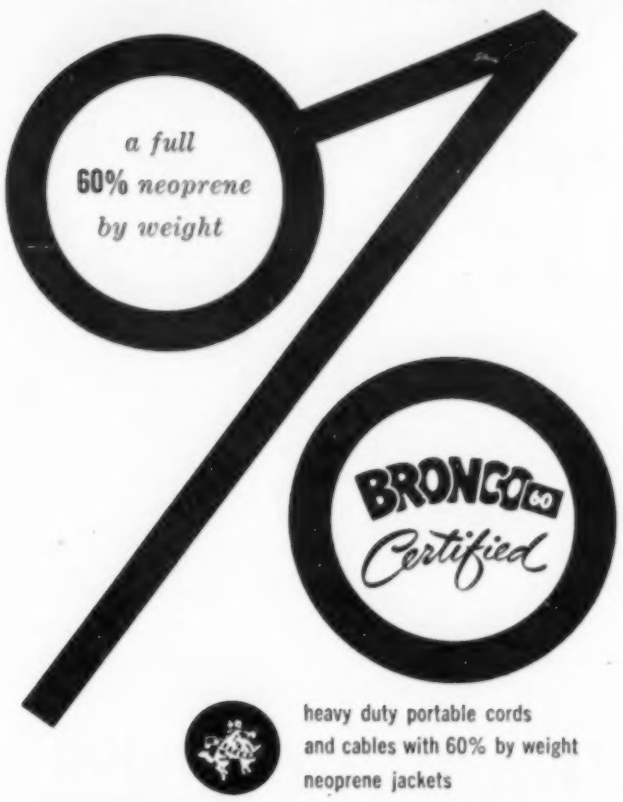
In "versi-pak" (No. 1845) the combination of ingredients has been slightly changed and a special solvent proof binder is used. This packing is recommended for rotary solvent installations and reciprocating solvent pumps up to 350° F. and/or 600 psi.

R/M PACKINGS
RAYBESTOS-MANHATTAN, INC.
PACKING DIVISION, MANHEIM, PA.

FACTORIES: Bridgeport, Conn. • Manheim, Pa. • No. Charleston, S.C. Passaic, N.J. • Neenah, Wis. • Crawfordsville, Ind. Peterborough, Ontario, Canada

RAYBESTOS-MANHATTAN, INC., Manufacturers of Packings • Teflon Products • Asbestos Textiles • Industrial Rubber Products • Abrasive and Diamond Wheels • Rubber Covered Equipment • Brake Linings Brake Blocks • Clutch Facings • Fan Belts • Radiator Hose Sintered Metal Products • Bowling Balls

If you write maker identify as IEN - 12773



heavy duty portable cords and cables with 60% by weight neoprene jackets

sold nationally by leading electrical wholesale distributors

Western Insulated Wire Co. • Los Angeles 58, California

If you write maker identify as IEN - 12774

FACTS

ON THE FIRST SUCCESSFUL LIFT TRUCK WITH

Torque Converter

- Increases clutch life 6 to 10 times!
- Lengthens engine life up to 50%!
- Permits start and stop on 20% grade . . . under full load!
- Loads speedily "inched" into position—eliminates clutch riding!

Available on all BUDA 3,000 to 7,500 lb. models. Installation can be made in the field.

FREE BOOK
—gives complete information. Write today!

BUDA

THE BUDA COMPANY • HARVEY, ILLINOIS

If you write maker identify as IEN - 12775

SpeedMaster portable electric drills are designed and built to stand up under continuous operation at full capacity. They have sealed ball bearings throughout; have broad face gears cut on centers, and every standard, industrial quality feature. They also have the special SpeedMaster advantages of: extra power; cast-in frame supports, bracing, cooling system, etc. —nothing to loosen or rattle; as well as SpeedWay's lighter weight, handiness and in-line thrust that makes straight drilling natural.

SPEEDWAY STANDARD DUTY DRILLS

These handy, economical drills are the logical drills for maintenance, construction, installers and service men. Cast-in aluminum construction. More power per pound than ordinary drills. They will give lifetime service.

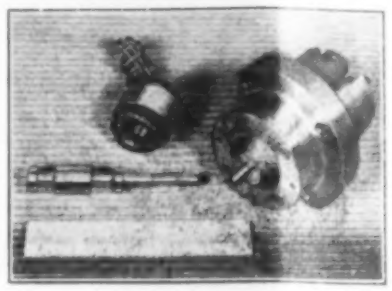
Write for Catalog

SpeedWay MANUFACTURING CO.
1885 South 52nd Ave. Cicero 50, Illinois

If you write maker identify as IEN - 12776

MOTOR . . High frequency ac., totally enclosed, speed to 100,000 rpm.

Source: BRYANT CHUCKING GRINDER CO.
255-59 Clinton St., Springfield, Vt.



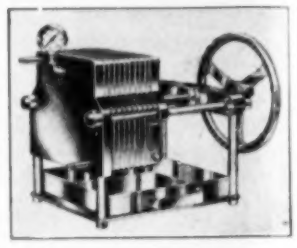
Details on request

The company announces availability of its special high frequency motor for applications other than in its own internal grinding heads. The motor is totally enclosed. The stator is water cooled. Designs include ball bearings with oil mist lubrication and "air bearings" in which the rotor actually rides on air for light load applications. Operation is in connection with a frequency converter that the company is prepared to supply.

If you write maker identify as IEN - 12777

FILTERING . . Plate type unit has rating of 52 sq. in. per sheet

Source: ERTEL ENGINEERING CORP.
90 Front St., Kingston, N. Y.



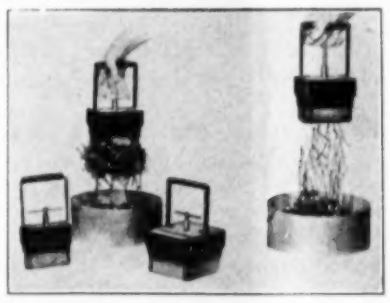
Also in Lucite

Model 8-ESS is a new liquid filter taking filter sheets measuring 8 by 8 inches. The sheets are clamped between stainless steel plates by turning a handwheel. Two inlet openings provide for single or double filtration by transfer of a plug. Uses include filtration of perfumes, essential oils, drugs, pharmaceuticals, chemicals.

If you write maker identify as IEN - 12778

MAGNET . . Permanent hand unit picks up and releases ferrous items

Source: MULTIFINISH MFG. CO.
2114 Monroe Ave., Dept. 392, Detroit 7, Mich.



Available on 10 day trial

Series 70 is new design of the Magnetool, previously described IEN-2854-51. The assembly employs Alnico magnets and a pull handle that acts to break the magnetic attraction when it is desired to drop the materials the magnet is holding. Three sizes measure 5½ in. in length by 8 in. in height. Width ranges from 1¾ to 6¼ inches. Pick-up capacity is 2 to 3 lb. for the smallest unit, 8 to 9 lb. for the largest one. List price ranges from about $20 to $75.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12779

NOW increased production and long life . . .

with "HARD-BUSHED"

DESTACO

TOGGLE CLAMPS

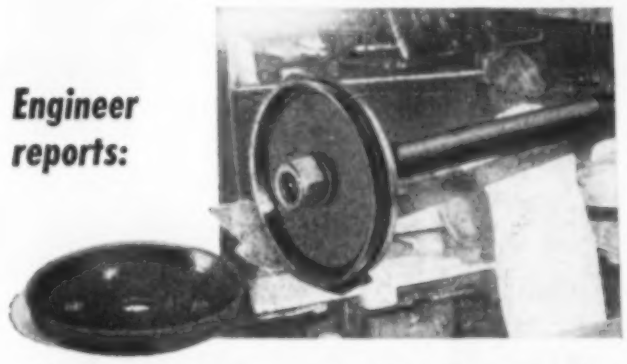
This is new—Destaco's new clamp design which gives you *hardended* bushings in all series 210, 220, 228 and 240 toggle clamps. The new bushings run full length through the clamp bars from a *larger* bearing surface—and they're deeply serrated to lock in position with no chance of turning in the bars. You get a minimum of wear, smooth, accurate snap action, even under tough production conditions. A feature of our heavier series for some years, this development sets new standards for tooling requiring 500 to 800 lbs. pressures. Further improvements have been incorporated in the "wrap around" construction which strengthens the base.

For any fast clamping action in milling, drilling, welding, bonding, molding, riveting or bolted assembly operations—specify Destaco Toggle Clamps for pressures up to 4000 lbs. Consult our stocking representatives in your area, or select from our 36-page catalog describing over 45 models. Write for his name and your copy today.

DESTACO DETROIT STAMPING COMPANY
342 Midland Ave. • Detroit 3, Mich.

If you write maker identify as IEN - 12780

Engineer reports:



"Maintenance practically eliminated with J-M Moulded Packing Cups"

A large laundry (name on request) encountered excessive downtime on presses, for maintenance of packings. When they changed to J-M Moulded Packing Cups, packing life was greatly increased, downtime drastically reduced, danger of soiling laundry from servicing packings eliminated.

J-M Moulded Packing Cups are made in many compositions to meet a wide range of pressures, temperatures and service conditions. For details write to Johns-Manville, Box 60, New York 16, N.Y. In Canada, 199 Bay St., Toronto 1, Ontario.

Johns-Manville PACKINGS and GASKETS

If you write maker identify as IEN - 12781

NOW! AN IMPROVED LOW COST CASTER with Hardened Raceways Unbreakable Fork and Top Plate

SERVICE PRESSWELD CASTERS

STRONG! AGILE! QUIET!

Here, at last, is a truly efficient, light-weight caster in the low-cost field. Ideal for Dollies, Racks, Box Trucks and similar applications in the moderate capacity range. Many features usually found only in high price casters provide for years of trouble-free performance. Get PressWelds — and get SERVICE quality at low cost.

Write for sizes, capacities and low prices

INDOOR MILES

SERVICE CASTER & TRUCK CORP.
Executive Offices: Albion, Michigan
Plants at Albion, Michigan & Somerville 43, Mass.

See your Classified Telephone Directory for Nearest Distributor

If you write maker identify as IEN - 12782

STRIP WIRE

FAST and CLEAN with an

IDEAL

"E-Z" Stripper

RUGGED — ALL STEEL

A heavy duty stripper that's as easy to use as pliers. Does not score or damage wire. At end of stripping stroke, automatic lock prevents snap-back and crushing of stranded wire. Part of stripping blade can be used as wire cutter. Blades are hardened steel and are replaceable. Six models handle wire gauges No. 8 to No. 26; also 300 ohm TV wire.

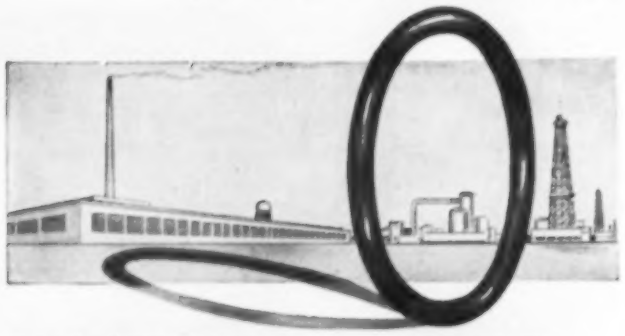
SOLD THROUGH LEADING DISTRIBUTORS ★ MAIL COUPON for Catalog Data

IDEAL INDUSTRIES, Inc.
1108 Park Avenue, Sycamore, Illinois

Please send catalog data on "E-Z" Automatic Wire Stripper.

Name_____
Company_____
Address_____
City_____ Zone____ State_____

If you write maker identify as **IEN - 12783**



MINNESOTA O-RINGS

Basic in Hydraulic Applications

Engineers have come to recognize Minnesota O-Rings for their great tensile strength . . . resistance to oil swelling . . . capacity for extreme hydraulic pressure. The *injection molding* process permits extremely close tolerances while keeping the daily production high and the rejection rate low. They're built to stand up under a wide variety of conditions including rapid reciprocating motion. This involves hydraulic and pneumatic cylinders in *transmission, tractors, jacks, machine tools, etc.* Available in many rubber compounds including silicone. Your inquiry will be handled promptly.

INJECTION MOLDED TO EXACT UNIFORMITY

Write for descriptive pamphlets covering the Minnesota line of O-Rings and other injection molded rubber parts.

MINNESOTA RUBBER & GASKET CO.
3630 Wooddale Avenue • Minneapolis 16, Minnesota

If you write maker identify as **IEN - 12784**

Hanna AIR AND HYDRAULIC Cylinders AND Valves

Here's Power and Control . . . for 101 uses

YOU CAN SPEED PRODUCTION, cut costs and simplify the actuation and control of many of your machines and equipment by using the fast, smooth *power of Hanna Cylinders* with the *exacting control of Hanna Valves.*

Hanna Cylinders are available in low pressure models operated by air, oil or water up to 110 p.s.i. and in high pressure hydraulic types operating to 1500 p.s.i., in a range of mounting styles to meet all requirements. There is a complete line of Hanna Valves including hand, foot, solenoid and pilot operated, which provide a wide choice of control.

Write for Bulletins 255 and 256 on Hanna Cylinders.

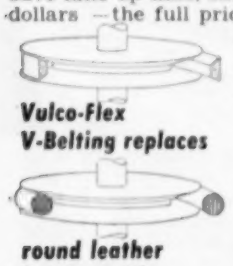
Hanna Engineering Works
HYDRAULIC AND PNEUMATIC EQUIPMENT CYLINDERS VALVES RIVETERS
1748 Elston Avenue • Chicago 22, Illinois

If you write maker identify as **IEN - 12785**

WANTED

Users of round leather belting to try Vulco-Flex V-Belting with this MONEY-BACK Guarantee

No matter what kind of machines you operate...if you are now using round leather belting...test Gates Vulco-Flex V-Belting on one of your machines for 90 days. If you do not save take-up time, end slippage, save replacement time and dollars —the full price you paid for the test drive will be refunded.



You DO NOT change pulleys... Vulco-Flex is as easy to install as round leather belting.

Vulco-Flex has a maximum of 3% stretch...grips pulleys to end all slippage...oil and heat resistant... lasts 4 to 7 times longer than leather belting.

Prove to yourself—with a test drive —how Vulco-Flex will reduce your maintenance—up your production—save you money. Write us on your letterhead to have Gates Field Engineer in your area install test drive. Or simply fill out the coupon below and send it to us.

Gates VULCO-FLEX V-BELTING

Coupon Brings Test Drive

The Gates Rubber Co. Sales Division, Inc.
Denver 17, Colorado

Please have nearby Gates Field Engineer install Vulco-Flex test drive. If we are not satisfied after 90 days, you are to refund price paid for V-Belting.

AC-18

Firm Name_____

Individual_____

Address_____ City & State_____

NEW LITERATURE

Brief reviews to advise you of available new information published by the manufacturers covering products they offer for your use. Each includes identification, size of the material, information it contains so you can judge its value to you.

Identify as **IEN - 0819**

ALUMINUM . . Imported high-purity aluminum alloy polishes to a permanent brilliant finish that can be dyed in a range of colors. Properties, working, finishing, suggested uses in 8-page pocket bulletin, "Lurium". Fromson Orban Co., 204 E. 43rd St., New York 17, N. Y.

Identify as **IEN - 0820**

BERYLLIUM COPPER . . Application idea book for this strong conductive fatigue-resistant alloy shows product uses from automobiles to kitchens. "Applications Unlimited", 16 pages. Beryllium Corp., P. O. Box 1462-A, Reading, Pa.

Identify as **IEN - 0821**

BURRING . . Barrel-finishing machines and materials to remove burs and flash from metal parts. How-it-works description, before-and-after pictures, performance examples in 52-page Supersheen Catalog. Almco Div., Queen Stove Works, 503 Front St., Dept. Q-1, Albert Lea, Minn.

Identify as **IEN - 0822**

ELECTRIC CABLE . . Stock types for electric, electronic and communications work including aircraft cable, hookup wire, shielded cable, coaxial and TV antenna wire. Two-page selection chart is a feature of 28-page Catalog 53. Alpha Wire Corp., 430 Broadway, Dept. AA, New York 13, N. Y.

Identify as **IEN - 0823**

ELECTRIC CABLE . . Book of 128 pages on rubber-insulated power cable to 35,000 volts describes construction, manufacture, current capacities, pulling tensions for installation, illustrated splicing instructions. Ask for Bulletin OK-1075. Okonite Co., 30 Canal St., Passaic, N. J.

Identify as **IEN - 0824**

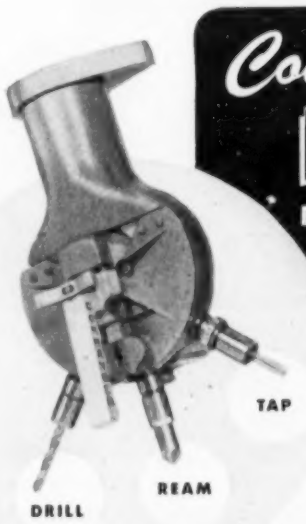
CALCULATING . . Plastic pocket slide rules made in Germany to distribute as gifts, advertising pieces, souvenirs or remembrances. Descriptions and list prices in 4-page bulletin, "How to Build Good Will." Graphic Calculator Co., 631-35 Plymouth Court, Chicago 5, Ill.

Identify as **IEN - 0825**

CHEMICALS . . Activated aluminas, alumina catalysts and catalyst supports, calcined aluminas for abrasive use, other alumina products, also fluorides, gallium metal. Summary in 4-page folder, "Alcoa Chemicals". Aluminum Co. of America, 1501-2 Alcoa Bldg., Dept. 22, Pittsburgh 19, Pa.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 12786**



Commander SELECT A SPINDLE

DUAL SPEED DRILL PRESS TURRET

DRILLS, REAMS, TAPS ON 1 DRILL PRESS SPINDLE!

- **Fits Any Drill Press**
- **Increases Production**
- **Reduces machine, fixture costs**

Commander Select-A-Spindle permits you to do 3 operations on a single drill press spindle . . . save time . . . eliminate multiple handling of piece parts, speed production and reduce overall costs. Dual Speed Select-A-Spindle permits selection of proper speed for each operation. Quick, positive hand indexing positions each tool accurately for sequence operations. Select-A-Spindle is built to tap with any 1, 2 or all 3 spindles to the full capacity of the unit. Adjustable torque control spindles for protection of taps to ¼" available.

Write for illustrated circular on Select-A-Spindle, other Commander Production Tools and name of your nearby Commander Distributor

Commander MFG. CO.
4219 W. KINZIE STREET, CHICAGO
PRODUCT OF COMMANDER . . . BUILDER OF PRODUCTION TOOLS

If you write maker identify as **IEN - 12787**

step up to the safety level

Dayton Safety Ladders pay their own way. The "safety level" working platform makes high jobs "ground-safe" — helps prevent costly ladder accidents. Check the "big 6" features that make Dayton your best buy.

1. Rail guarded "safety level" platform.
2. Locks in place automatically.
3. Rubber safety shoes.
4. Light weight—great strength.
5. Economically priced.
6. Complete size range 3' to 16' in height.

Write Dept. J for Bulletin

Dayton safety ladders

Dayton safety ladder co.
2339 Gilbert Ave., Cincinnati, O
In Canada—
SAFETY SUPPLY CO., TORONTO

If you write maker identify as **IEN - 12788**

MERCOID®

AIR TEMPERATURE CONTROLS

EQUIPPED WITH SEALED MERCURY CONTACT SWITCHES
"The Contact That Never Requires Cleaning"

FOR USE AS A LIMIT, FAN OR ALARM CONTROL
ON AIR CONDITIONING DUCTS, INDUSTRIAL BAKE OVENS, DRYING OVENS

Series M-51: A dial located in the center of the instrument slowly rotates as the temperature on the bimetal coil increases or decreases. Cut-in and cut-out operating temperatures are easily set by means of a simple double adjustment. Available for various circuit arrangements. Ranges from 40-280°F. to 50-650°F.

Series 116: Have outside adjustment for easy setting of operating range. Ranges 50-300°F. (diff. 4°F.), 250-500°F. (diff. 3°F.), 50-500°F. (diff. 5°F.). Can be furnished to open or close circuit on temperature rise.

Series 118: For use where very close differentials are required. The following ranges all have a differential of only 1°F.; 50-150°F., 100-250°F., 225-235°F. Outside adjustment. Available to open or close circuit on temperature rise.

For detailed information on the above controls and other air type temperature controls write for Catalog 700A.

THE MERCOID CORPORATION, 4201 BELMONT AVE., CHICAGO, ILL.

If you write maker identify as **IEN - 12789**

30% LIGHTER

the NEW SAF-I SPECTACLE

The combined weight of the NEW Plastic Frame and Optilite A Lens is 30% less than hardened glass spectacles.

NEW EXCLUSIVE FEATURES

- 30% less weight
- Dual-Purpose Frames
- Snap-on Side Shields
- Optilite A Plastic Lens

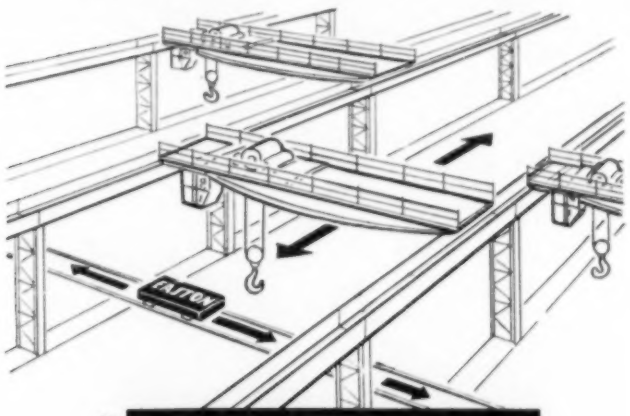
Write for literature and Prices

UNITED STATES SAFETY SERVICE CO.
KANSAS CITY 6, MISSOURI BRANCHES IN PRINCIPAL INDUSTRIAL CITIES
In Canada: PARMELEE, LTD. Toronto—Montreal

If you write maker identify as IEN - 12790

Cross-Bay Transfer

Automatic motor driven transfer cars provide a universal handling system in modern parallel bay plants now served by overhead cranes. Also for transfer between plant buildings.



A-1040

® EASTON

EASTON CAR & CONSTRUCTION CO. • EASTON, PA.

If you write maker identify as IEN - 12791

LOW-COST OSTER THREADING MACHINES DELIVER BIG SAVINGS

You don't have to baby this machine

The Oster No. 422 Power Vise Stand will do the job when and where you want it because it's fast, dependable, and sturdy. It's easy to operate, easy to move, and threads all pipe sizes up to 2".

The answer to maintenance threading

The Oster No. 502 "Pipe Master" with standard range from ½" to 2" and extra range of ⅛" to ⅜" is a heavier, faster machine than the No. 422. Ideal for shop maintenance, it turns out quality threads under rough conditions.

For complete information about these Oster money-savers, see your local Oster Distributor, or if you don't know who he is, write us today for free, fully illustrated, factual literature.

THE OSTER MANUFACTURING CO.
Main Office and Factory:
2053 East 61st St. • Cleveland 3, Ohio

1893 - CELEBRATING 60 Years Leadership in the Threading Industry - 1953

NEW LITERATURE—Continued

Identify as IEN - 0826

CIRCUIT BREAKERS . . Panelboard assemblies of new type NPLAB plug-in Quicklag units for small-wire lighting and branch circuits from 15 to 50 amp. on 120-volt ac. Bulletin B-5644, 8 pages. Westinghouse Electric Corp., 511 Wood St., Dept. IEN, Pittsburgh 30, Pa.

Identify as IEN - 0827

CLAMPS . . Jig and fixture bodies in some 7,500 stock sizes for nearly every general tooling requirement. They are normalized and have machined surfaces parallel and squared. Typical sizes with list prices in 4-page Catalog. Smith Engineering & Tool Co., 290 Bay Ave., Glen Ridge, N. J.

Identify as IEN - 0828

CLAMPS . . Jig and fixture components such as box jigs, cam clamps, heel clamps, shoulder screws, studs, levers, hand knobs. Full-scale tracing templates are given for most of the 500 items in 62-page 1953 catalog. Standard Parts Co., 1002 Broadway, Bedford, Ohio

Identify as IEN - 0829

BLAST CLEANING . . Wet abrasive machines for standard and high-velocity operation. Before-and-after pictures in 8-page "Pressure-Blast" bulletin show applications. Cro-Plate Co., 800 Windsor St., Hartford 5, Conn.

Identify as IEN - 0830

ULTRASONIC CLEANING . . Transducer immersed in a solvent produces an impact cleaning action on metal parts, glassware, plastics in a production operation. Details on the equipment and work are in 4-page "Soniclean" bulletin. Detrex Corp., 14329 Woodrow Wilson, Detroit 32, Mich.

Identify as IEN - 0831

ELECTRIC CONNECTORS . . Hermetic-seal terminal assemblies, single and multiple, of Kovar-glass construction, also observation windows for hermetic containers, strain-relief and high-voltage terminals. Catalog 453, 36 pages. Stupakoff Ceramic & Mfg. Co., 44 Cooperstown Road, Latrobe, Pa.

Identify as IEN - 0832

POSITION CONTROL . . Edge position of a moving sheet, such as paper, plastic, fabric, metal, is held constant by a control that employs a low-pressure air jet as the sensing element. Diagrams in 12-page Bulletin 161. Askania Regulator Co., 238-42 E. Ontario St., Chicago 11, Ill.

Identify as IEN - 0833

PROCESS CONTROLS . . Measuring elements, meters, recorders, control instruments and equipment for 17 process variables from combustion to weight. Bulletin 17-E, 16 pages, summarizes them in tabular form to assist selection. Bailey Meter Co., 1022 Ivanhoe Road, Cleveland 10, Ohio

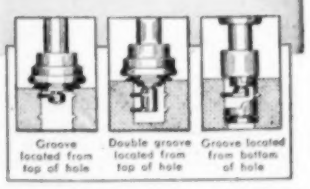
Identify as IEN - 0834

CONVEYING . . Application pictures of belt, flight, roller conveyors are grouped by industry in 16-page Bulletin 2591 with the idea of suggesting a possible use in your own plant. An automatic pallet loader is included. Alvey Conveyor Mfg. Co., 9303 Olive St. Road, St. Louis 24, Mo.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12793

Waldes Truarc Internal Grooving Tool
for precision cutting of internal grooves in bores and housings
FAST! ECONOMICAL! NEEDS NO SKILLED LABOR!



Internal groove-cutting becomes the simplest of operations with Waldes Truarc Internal Grooving Tool. Easy to adjust—easy to operate...readily adaptable to individual requirements.

Designed for use in any hand drill or automatic drill press and screw machine...assures a concentric recess without injury to metal. Operates by fingertip pressure—especially suitable for unskilled operators.

The Waldes Truarc Grooving Tool when used in an electric or pneumatic hand drill, can be taken to the job eliminating disassembly and excessive handling...resulting in all-around savings in time and costs!

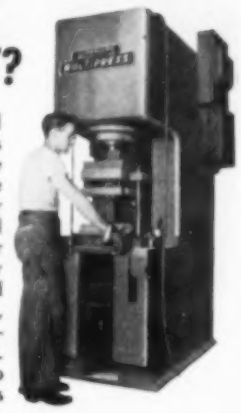
Write now for descriptive brochure giving mechanical details, cutting sizes...extra features

WALDES TRUARC GROOVING TOOL
WALDES KOHINOOR, INC.
47-16 Austel Pl., Long Island City 1, N.Y.

If you write maker identify as IEN - 12794

Want Better, Faster Production?

Which MULTIPRESS Fits Your Needs BEST?



The fast, smooth oil-hydraulic power and control of Multipress consistently brings production gains of many kinds. *Stroke length, ram speed and pressure* are easily adjusted to exact needs—for higher production speeds, better metal flow, better quality of work, less wear and tear on dies, safer operation, easier handling and quieter action. Equipped with automatic Multipress Index Tables, Multipress often keeps *two or more operators* busy loading parts at top speed. Other job-speeding accessories also available. Note the many Multipress sizes and capacities in the chart below. *Write for details.*

SPECIFICATIONS	BENCH MODELS				FLOOR MODELS				
Frame Size	B	D	F	G	H	K	L	N	Q
Capacities (Tons)	1	2,3,4,6	2,4,8	5,10	5,10,15	25	35	50	75
Max. Ram Speeds (I.P.M.) Closing	1100	1300	1300	700	700	530	530	290	210
Max. Ram Speeds (I.P.M.) Pressing	400	570	570	220	280	250	250	145	110
Max. Ram Speeds (I.P.M.) Opening	600	920	920	310	500	470	470	290	220
Max. Stroke	6"	12"	12"	12"	12"	15"	15"	15"	15"
Max. Daylight Open'g	15⅝"	12"	18"	24"	23"	24"	24"	24"	30"
Throat Depth	5"	6"	8⅛"	12"	10"	12"	12"	12"	10"

CHOICE OF MANUAL AND AUTOMATIC CONTROL VALVES FOR ALL MODELS

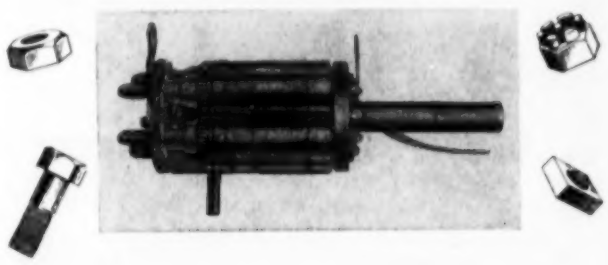
DENISON HydrOILics

The DENISON Engineering Company
1150 Dublin Rd., Columbus 16, Ohio

If you write maker identify as IEN - 12795

SET FIVE NUTS SIMULTANEOUSLY!

Thor MULTIPLE NUT SETTERS



Multiple-unit Thor Nut Setters, engineered to your assembly application, *boost output . . . two, three, five times . . .* with a small investment in tooling, *no extra labor charges.* For complete information on this amazingly efficient Thor development, write Thor Power Tool Company, Aurora, Ill.

Impact Wrenches Assembly Tools Grinders Hammers

TOOL MAKERS FOR SIXTY YEARS

If you write maker identify as IEN - 12796

How Avon saves $12,000 a year with International Carton Stapler

In 1950, the Chicago branch of Avon Products Inc., nationally known manufacturers of cosmetics and toiletries, installed an International Stapler for closing filled cartons of their products.

Formerly, it took 32 man-hours to close between 1,500 and 2,000 cartons of varying sizes. With the International Stapler, this operation requires approximately one-fourth the time.

International Staplers will save you up to 50% on shipping costs . . . write for details. ***Have you seen the new movie, "Package for Profit"? Ask about bookings.***

INTERNATIONAL STAPLING MACHINES
INTERNATIONAL STAPLE & MACHINE COMPANY
800 East Herrin Street, Herrin, Illinois

If you write maker identify as **IEN - 12797**

Start by specifying Jewel Brand Coated Abrasives.

Whatever your finishing operation may involve — grinding, smoothing or polishing — there's a specific Jewel Brand Abrasive Belt designed and made to help you do the job better, faster, and at a lower cost. Let an experienced Jewel Brand Engineer help you select the *right* one — for metal, wood, leather, rubber or plastic. Write for complete details. Abrasive Products, Inc., 541 Pearl St., South Braintree 85, Mass.

Jewel Brand COATED Abrasives

If you write maker identify as **IEN - 12798**

Electronic Temperature Control

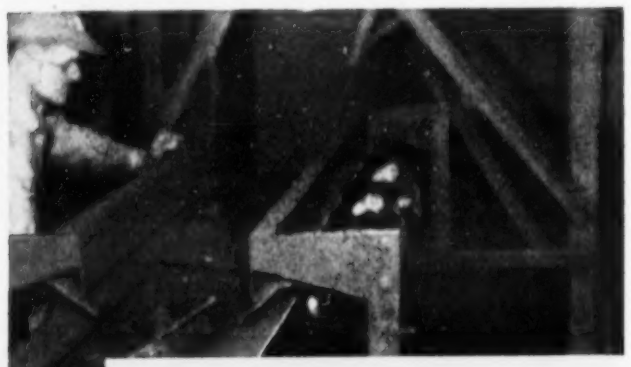
...with Alnor Accuracy

Alnor, pioneer in the field of electronic temperature instruments, brings you automatic, precise temperature control for heat-treating furnaces, bake ovens—in fact, for any heating device whether electrically heated or fuel fired. It's the Alnor Temperature Controller—simple in design and operation, its accuracy proved on thousands of installations in many industries.

Easily and quickly installed, this instrument is ready to give you accurate controller service on new or existing heating equipment temperature—you merely set the pointer at the desired temperature and forget your indicating and controlling problems. But find out for yourself how Alnor accuracy and dependability can serve you in controller service; write today for complete details on the Alnor Temperature Controller...Alnor accuracy at a price you can afford. Illinois Testing Laboratories, Inc., Rm. 517, 420 N. La Salle Street, Chicago 10, Illinois.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

If you write maker identify as **IEN - 12799**



NEW NYB&P CONVEYOR BELT HAS BUILT-IN RIP STOPPERS

"RESISTORIP" construction ejects sharp, partly-embedded objects that ruin belts

How often have you had to junk an almost new conveyor belt...ripped to shreds by razor-sharp particles which embed themselves in the belt, then jam and slit long sections?

NYB&P's new "RESISTORIP" belt is designed to end this useless loss. At close intervals throughout its length, transverse groups of high-tensile steel wires are built into the belt's carcass. When a sharp, partly-embedded object starts to rip this belt, it quickly encounters one of these wire groups. Immediately it is ejected...and damage to the belt is confined to a very short section, only inches in length!

SEE YOUR NYB&P DISTRIBUTOR

NYB&P NEW YORK BELTING & PACKING CO. 1 Market St. Passaic, N. J.

America's Oldest Manufacturer of Industrial Rubber Products

NEW LITERATURE—Continued

Identify as **IEN - 0835**

OVERHEAD CONVEYOR . . Malleable-iron link with built-in universal joint assembles in multiple to ride in pressed-steel track. How to plan a layout, standard track sections, erection instructions, drive, in 16-page "Un-O-Veyor" catalog. Michna Systems, 5049-53 S. Western Ave., Chicago 9, Ill.

Identify as **IEN - 0836**

DIE CASTING . . Machine for aluminum and magnesium has capacity of 9.5 lb. of aluminum per shot. Eight-page Bulletin 103 tells about the "Die-Forge" pressure applied to the molten metal and 650-ton clamping. Lewis Welding & Engineering Corp., 28 Interstate St., Bedford, Ohio

Identify as **IEN - 0837**

DRILLING HEAD . . Self-contained assembly to use in multiple for drilling and reaming operations. It features hydraulic operation with electric control. Drillunit bulletin, 4 pages, also has a separate two-page dimension sheet. Drillunit Inc., 637 Mount Elliott, Detroit 7, Mich.

Identify as **IEN - 0838**

DRILLING TOOLS . . Portable pneumatic drills, grinders, screwdrivers and nut setters in a range of 100 related designs, each with an average weight of 2 pounds, in company's No. 2 Series. Catalog JE-1660, 12 pages. Thor Power Tool Co., 173-77 N. State St., Aurora, Ill.

Identify as **IEN - 0839**

TWIST DRILLS . . 152-page Catalog 51, copyright 1953, covers twist drills, wood bits, drill sets, reamers, counterbores, carbide-tipped tools. A data section shows how to grind drills, lists speeds and feeds, includes tables. Chicago-Latrobe, 409-13 W. Ontario St., Chicago 10, Ill.

Identify as **IEN - 0840**

DRYING . . Compressed air is dehydrated and filtered by the company's Condensifilter, an assembly of condenser, mechanical filter and trap. Model A-100-D rates 100 cfm. of free air at 100 lb. Bulletin AD-100, 2 pages. Hankison Corp., 184 Biltmore Bldg., Pittsburgh 16, Pa.

Identify as **IEN - 0841**

DUST COLLECTING . . Vertical rotor produces a water spray that washes dust from air drawn into the Centri-Merge unit, either direct or as a secondary step after a cyclone stage of dry separation. Bulletin VU, 4 pages. Schmieg Industries Inc., Box 4701-A, Detroit 34, Mich.

Identify as **IEN - 0842**

ELECTRONIC PRODUCTS . . Catalog 135 has 268 pages on electronic tubes, test instruments, transistors and other components, hardware, tools, industrial television, sound recorders, other communicating equipment. Allied Radio Corp., 102 N. Western Ave., Chicago 80, Ill.

Identify as **IEN - 0843**

ELECTRONIC PRODUCTS . . Diffused-junction germanium rectifiers with almost 100 per cent efficiency. Performance curves in 4-page Bulletin ECG-10B. General Electric Co., 1949 Electronics Park, Syracuse 1, N. Y.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 12800**

TWA finds new low-cost seal to protect engine openings

Polyken Tape No. 113 quickly seals exhaust ports while engines are being overhauled at the TWA Overhaul Base, Fairfax Field, Kansas City, Kansas.

While the giant engines of TWA transports are being overhauled, all the exhaust and carburetor ports are open invitations to damage by dust and foreign matter. Wooden plugs didn't do the job. They were expensive, took a lot of time to fit, and didn't always form a complete seal. *Polyken* Tape No. 113 solved the problem. Now all the engine openings are sealed with this *Polyken* Tape. The seal is complete, quickly made, much cheaper.

This is just another example of the way industry is finding new money-saving uses for *Polyken* Tapes. Write for free samples and complete information. *Polyken*, **Dept. IEK,** 222 West Adams St., Chicago 6, Ill.

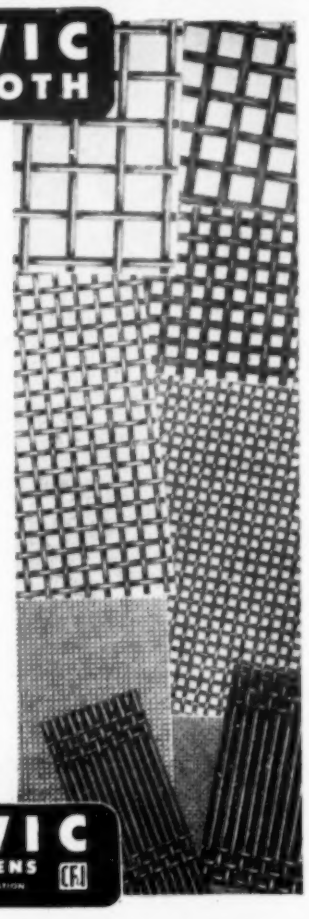
Polyken® TAILORED TO YOUR JOB

INDUSTRIAL TAPES

Polyken Products Dept. of The Kendall Company

If you write maker identify as **IEN - 12801**

CAL-WIC WIRE CLOTH



meets all special job demands

Whatever your special job demands may be—filtering, screening, grading, cleaning, or any other type of processing — Cal-Wic Wire Cloth is available in the right weave, mesh or weight to give long-lasting dependable service.

To order, write or phone our nearest district sales office.

THE COLORADO FUEL AND IRON CORP.
Denver and Oakland

WICKWIRE SPENCER STEEL DIVISION
Atlanta • Boston • Buffalo • Chicago
Detroit • New Orleans • New York
Philadelphia

CAL-WIC INDUSTRIAL SCREENS CFI
THE COLORADO FUEL AND IRON CORPORATION

1250

If you write maker identify as **IEN - 12802**

Ten basic sizes with capacities from 30 Mbh to 490 Mbh. Totally enclosed motors.

nyb

UNIT HEATERS

Built to Meet Modern Industrial Requirements

Horizontal Type

Ceiling suspension type with heavy duty, welded steel, fin-and-tube heating element. (Extra heavy non-ferrous coils also available.) Suitable for continuous heating service on steam pressures up to 150 pounds or more.

Bulletin 513

Vertical, Projection Type Also Available

For efficient heating from high-ceiling areas—for door heaters over small openings—or where the horizontal type is not applicable. Ten basic sizes; capacities from 27 to 332 Mbh.

Bulletin 516

IUHA HEAT WITH UNIT HEATERS

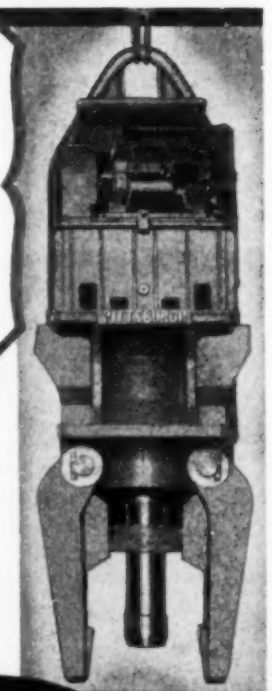
nyb THE NEW YORK BLOWER COMPANY

SALES OFFICES • 3181 SOUTH SHIELDS AVENUE • CHICAGO 16
FACTORY, LAPORTE, INDIANA

If you write maker identify as **IEN - 12803**

PORTABLE INGOT STRIPPER

can do your job



- **MORE ECONOMICAL**
- **MORE FLEXIBLE**

than conventional equipment

Write today for complete technical data

pittsburgh ENGINEERING & MACHINE CO.

316 FARMERS BANK BLDG., PITTSBURGH 22, PA. • PLANT AT GLASSPORT, PA.

If you write maker identify as IEN - 12804

in ANY Laboratory

where Electrical Equipment is used

This Universal Bridge is always set up and ready to make measurements of:

Resistance: 1 milliohm to 1 megohm

Capacitance: 1 micromicrofarad to 100 microfarads

Inductance: 1 microhenry to 100 henrys

Dissipation Factor (R/X): from .002 to 1

Storage Factor (X/R): from .02 to 1000

Type 650-A Impendance Bridge is completely self-contained with built-in power sources for both d.c. and 1000-cycle a.c. measurements. **Price: $260**

Write for Complete Data

GENERAL RADIO Company 275 Massachusetts Ave. Cambridge 39, Mass.
90 West St. NEW YORK 6 920 South Michigan Ave. CHICAGO 5
1000 North Seward St. LOS ANGELES 38

If you write maker identify as IEN - 12805

SIMPLIFIED

Work was simplified and savings made possible when the Stanley Steel Strapping System was adopted by the Shipping Room at the Bassick Company's South Plant, Bridgeport, Connecticut.

Casters formerly packed in unwieldly barrels now are packed in lightweight cartons, quickly stored by sizes. On shipment, orders are filled faster, cars or trucks loaded easier. Maximum protection in transit is provided. Bassick distributors save time and money in storing and reshipping to their customers.

In almost every type of plant — with almost every type of product — substantial savings are being made in packaging and handling by the Stanley Steel Strapping System. Call in the Stanley Packing and Shipping Engineer. He'll install the Stanley Steel Strapping System on a 30-day trial. No obligation . . . just mail the coupon below.

STANLEY STEEL STRAPPING SYSTEM*

Reg. U.S. Pat. Off.

***A MAN** thoroughly experienced in steel strapping applications — the Stanley Packing and Shipping Engineer.*

A METHOD adaptable to any requirement — the Stanley Steel Strapping System with representatives in 32 principal cities.

HARDWARE
TOOLS
ELECTRIC TOOLS
STEEL STRAPPING
STEEL

THE STANLEY WORKS, Steel Strapping Division
204 Lake St., New Britain, Conn.

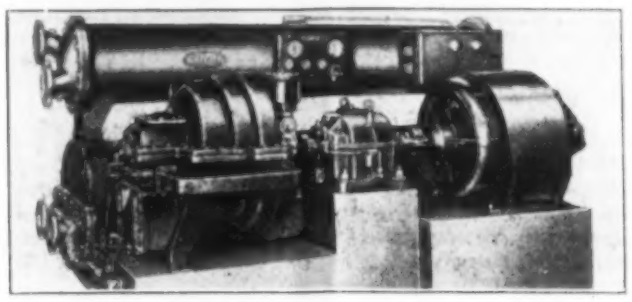
☐ Yes — the 30-day trial interests me. Have the Stanley Packing and Shipping Engineer call.
☐ Send me complete information about the Stanley Steel Strapping System.

(Please write name and address in margin of page)

If you write maker identify as IEN - 12807

REFRIGERATING . . Compressor and equipment in 20 to 200 ton range

Source: CARRIER CORPORATION
48-52 Geddes St., Syracuse 1, N. Y.



Easy to service and maintain

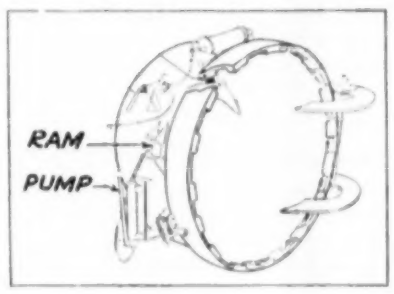
Model 72-M is a new centrifugal refrigerant compressor in assembly with an evaporator, a condenser, a drive, an economizer, a purge recovery unit, the necessary safety devices and an instrument panel. Drive can be specified for a motor, engine or steam turbine. The new unit extends the range of centrifugal equipment built by the company in previous limits from 200 to 2,000 tons.

Primary application is to supply chilled water for air conditioning installations. Operating speed can be selected for normal or above normal condensing temperatures. Impeller wheels are made of lead coated alloy steel. Separate cast iron water heads, on both the condenser and the cooler, permit access for inspection and servicing.

If you write maker identify as IEN - 12808

PROCESSING . . Quick opening door for pressure vessels, ring controlled

Source: TEDD HARRIS CO.
27 Fredericka St., Dept. IEN, North Tonawanda, N. Y.



Built to order

Teflon is employed as the gasket in new design of the Tharco quick opening safety door for pressure and vacuum vessels. Test for an extended period indicates it to have much longer wearing ability than rubber or other material for this particular service. The gasket seals the opening. The door is hinged into place and an outer wedge equipped ring is rotated into locking position by means of air pressure applied in a cylinder mounted on the pressure vessel.

In addition to the air cylinder, the assembly includes a small hand operated hydraulic ram. This ram applies between a bracket on the vessel housing and a second bracket secured to the ring. It serves to rotate the ring through a small arc to release pressure on the wedges and permit escape of any remaining pressure within the vessel before the door is fully released. After a short interval the operator can then place an opening bar in a socket on the ring and can turn the ring to release the door.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12809

Try this heat-resistant "Scotch" Electrical Tape made of glass!

See for yourself how "Scotch" Electrical Tape No. 27 can "take it" when the heat's on!

The glass cloth backing won't burn, stretch, shrink or rot. And the thermosetting adhesive cures in 1 hour at 300°F to form a lasting bond of great strength. Curing increases the dielectric strength about 500 volts.

STOCK UP *on "Scotch" Electrical Tape No. 27 today! 66 ft. x ½ in. rolls are packed in individual cans. Be ready for the "hot spots" before they're "trouble spots" for you!*

The term "Scotch" and the plaid design are registered trademarks for the more than 300 pressure-sensitive tapes made in U.S.A. by Minnesota Mining & Mfg. Co., St. Paul 6, Minnesota.

If you write maker identify as IEN - 12810

KLIXON PROTECTORS

Help keep the "heat on" in York-Shipley Boiler Units

Modern in design, compact for space saving, the York-Shipley oil-fired, table-top boiler units provide plenty BTU'S for outstanding home and hot water heating.

York-Shipley engineers specify and use motors with built-in Klixon Protectors to insure dependable, long-lived motor operation.

Here's what Mr. H. Leroy Mohn, project engineer, has to say about Klixon Protection:

"We prefer Klixon built-in motor protection in our oil burner and circulating pump motors because we find they reliably protect motors against unusual load conditions. Our experience with these protectors has been excellent."

You, too, can keep motors in your equipment operating, reduce service calls and repairs by specifying and using Klixon protected motors. The additional cost is low, pays for itself over and over by reducing motor burnouts.

SPENCER THERMOSTAT
Division of Metals & Controls Corporation
210 FOREST ST., ATTLEBORO, MASS.

KLIXON

If you write maker identify as IEN - 12811

with Veelos on your machines
v-belt adjustment is a production-saving job

ALL V-BELTS STRETCH. With endless v-belts there's nothing you can do to take up this stretch once the motor has been "run-out". But with Veelos the adjustment is in the belt itself—even sliding motor bases are unnecessary.

Changing the length of each Veelos v-belt by just adding or removing links is the best, most efficient, way to keep the belts correctly matched. Using Veelos means that the job of adjustment is done easily and quickly... with the least amount of machine down-time.

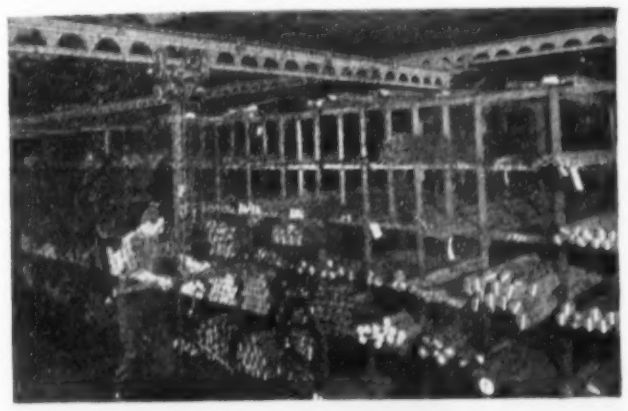
Write for your copy of the Veelos Data Book—it gives file-worthy product and engineering facts which you should have handy. We'll be glad to send you a copy.

VEELOS THE LINE V-BELT

MANHEIM MANUFACTURING AND BELTING CO.
651 Manbel Street, Manheim, Pa.

Adjustable to Any Length • Adaptable to Any Drive

If you write maker identify as IEN - 12812

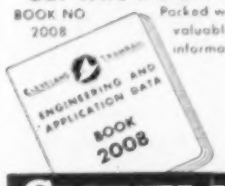


20 FOOT BARS
Stored and Handled Efficiently

Simple, inexpensive overhead tramrail cranes make it easy to handle long, unwieldy bars and store them in racks where readily found. One man can easily and quickly place a heavy bar into or take out of storage and deliver to any point covered by the crane.

Wherever materials are moved Cleveland Tramrail offers possibilities of tremendous savings.

GET THIS BOOK!
BOOK NO 2008
Packed with valuable information



CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
4221 East 285th Street, Wickliffe, Ohio

CLEVELAND TRAMRAIL

If you write maker identify as IEN - 12813

ACE-HIDE

UNBREAKABLE RUBBER-PLASTIC 3-GAL. PAIL

3-GAL. PAIL

1-QUART DIPPER

For handling corrosive solutions. Tough, resilient, practically indestructible. Made of a new synthetic rubber-base material called ACE-HIDE, unaffected by most acids and alkalies. Drip-proof spout pours easily directed stream. Graduated scale inside pail. ORDER NOW from your rubber goods distributor, or write us.

ACE rubber and plastic products

AMERICAN HARD RUBBER COMPANY

93 Worth St., New York 13, N. Y.

If you write maker identify as IEN - 12814

Revolutionary new Baker gas-O-matic fork truck saves money in 3 ways!

40% less fuel...

Tests by independent laboratories and industrial plants show gas consumption of about ½ gallon per hour — less than 60% as much as for conventional gas trucks. Economy results from low operating speed of engine, exclusive Baker variable voltage generator and efficient Baker drive motor.

40% lower maintenance...

No clutch or gear-shift, eliminating most common cause of gas truck breakdowns. Dependable electric drive and many new design features mean 40% lower repair costs and 40% less down time.

50% longer life...

Majority of GAS-O-MATIC parts are standard Baker electric truck parts. Government permits tax write off of electric trucks over twice as many years as for gas. With one engine replacement, GAS-O-MATIC should last 10 years or more.

Get the whole story from your Baker representative or write for Bulletin 1344

THE BAKER-RAULANG COMPANY
1226 WEST 80th STREET • CLEVELAND 2, OHIO
The Baker-Lull Corp., Subsidiary, Minneapolis, Minn. Material Handling and Construction Equipment

Baker industrial trucks

If you write maker identify as IEN - 12815

The New Super-Hard Carbide Drill

Up to 200% Greater Life

A Better Drill For Hardened Steel

Long carbide end keeps cutting heat away from braze.

Write for Catalog Supplement No. 4

QUALITY CARBIDE TOOLS

Super TOOL COMPANY

21650 Hoover Rd., Detroit 13 • 5210 San Fernando Rd., Glendale 3

NEW LITERATURE—Continued

Identify as IEN - 0844

ELECTRONIC TUBE . . Full-wave vacuum rectifier is heater-cathode type for 6.3 or 12.6-volt operation with about 75 ma. per plate. It is one of the company's Special Red tubes with stable 10,000-hour life. "RCA-5690", 8 pages. Radio Corp. of America, 413-17 S. 5th St., Harrison, N. J.

Identify as IEN - 0845

ELECTRONIC PRODUCTS . . How a transistor works is described in 4-page Bulletin DL-S-312 together with formulae, equivalent circuits, characteristic curves, and data on two hermetically-sealed point-contact models. Texas Instruments Inc., 6002 Lemmon Ave., Dallas 9, Texas

Identify as IEN - 0846

FABRICATING . . Steel framing assembles with a saw and wrench into bins, racks, scaffolds, supports. Illustrated suggestions in 52-page Catalog 100. Ainsworth Mfg. Corp., Mult-A-Frame Div., 1743-17 E. Atwater, Detroit 7, Mich.

Identify as IEN - 0847

FEEDING . . Ratochlor chlorine dispenser employs up-to-date materials of construction and diaphragm-regulator operating principle to feed chlorine into water. Catalog 6, 12 pages, gives a schematic flow diagram, describes safety features to prevent trouble, lists specifications on 10 models. Fischer & Porter Co., 15 Jacksonville Road, Hatboro, Pa.

Identify as IEN - 0848

FEEDING . . Vibrating bowl feeds small parts for processing, packaging, assembly operations. An electronic counter tells how many. "Production Jitters", 4 pages. Perry Equipment & Eng. Co., 3123-27 Brandes St., Erie, Pa.

Identify as IEN - 0849

AIR FILTERS . . Dry-panel units for ventilation and air-conditioning service have a filter element held in zig-zag crimp arrangement between wire cloth supports. Selection chart in 8-page Bulletin 600 with performance curves. Dollinger Corp., 9-13 Centre Park, Rochester 3, N. Y.

Identify as IEN - 0850

LIQUID FILTER . . Self-cleaning automatic coolant filter now is available as optional equipment on late-model Gardner grinding machines. Details in 4-page "Delpark Filters for Gardner Grinders". Industrial Filtration Co., 253 Industrial Ave., Dept. 195, Lebanon, Ind.

Identify as IEN - 0851

FLOORS . . Resurfacing material for wood or concrete floors, resurfacing material for metal and other roofs, water proofing for masonry walls. Folder MP, 4 pages. Stonhard Co., 1304-8 Spring Garden St., Philadelphia 23, Pa.

Identify as IEN - 0852

SURFACE ROUGHNESS GAGES . . Points of disagreement about how rough a surface is are stated in 4-page Bulletin LT-85, "How to Win Arguments on Surface Roughness", along with advantages of measuring it numerically. Micrometrical Mfg. Co., 343-47 S. Main St., Ann Arbor, Mich.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12816

Great Motors from Great Britain!

Newman Totally Enclosed Fan Cooled Squirrel Cage Motors

- world-famous NEWMAN MOTORS
- net savings up to 40%
- immediate delivery
- unconditionally guaranteed
- superior design— to N.E.M.A. standards
- offices in principal cities

For the first time, the complete world-famous line (2 million installed in 62 countries since 1935) of NEWMAN MOTORS, built to N.E.M.A. standards, is offered to the American Market.

Immediately available from our warehouse in New York in a complete range of squirrel cage and wound rotor types in sizes up to 230 H.P. *Any motor sent free and without obligation for examination and testing.*

These are new, high-quality motors stamped with the prestige of a great motor-making company. Vast savings, dependability, unconditional guarantee are offered to American buyers.

Write for a catalog and price list to-day

Newman INDUSTRIES (AMERICA) INC.
41 BROAD STREET, NEW YORK 4, N.Y.

If you write maker identify as IEN - 12817

Q. What vacuum-producing equipment operates without vibration?

A. The I-R STEAM-JET EJECTOR

There's no vibration because the steam-jet ejector has *no moving parts.* Evacuation is produced by entrainment in a high-velocity steam jet, discharging into a venturi-type diffuser.

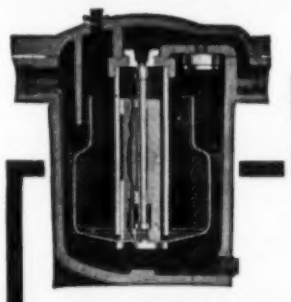
For vacuum pressures down to .002" Hg absolute, the Ingersoll-Rand Steam-Jet Ejector is unequalled for simplicity, ruggedness and long life. There's nothing mechanical to wear out, nothing to lubricate, adjust or maintain. Operation is quiet and free from vibration. Installation requires little or no foundation work.

I-R Steam-Jet Ejectors are available in sizes and types to meet every operating requirement. They can be supplied for any desired capacity—for handling any combination of air, gases and vapors—with precoolers, intercondensers and after-condensers as required. For further information ask for free Bulletin No. 9013A.

686-4

11 Broadway, New York 4, N. Y. Ingersoll-Rand

If you write maker identify as IEN - 12818



ILLINOIS STEAM TRAP

Simple—has only two moving parts

Valve Stem Travels Independent of Bucket—no other trap has this feature.

Instantaneous Valve Action—either wide open or tight shut—will not dribble on partial closing of valve under slow condensation rates.

Wire Drawing Impossible—valve has snap action.

Simple—moving parts are valve and bucket.

Cannot Air Bind—vents air continuously without loss of steam.

Cannot Blow Steam—always water sealed.

Surface Discharge—flushes out all grease and sludge.

Valve Seat—of special alloy, fully guaranteed.

Inspection Easy—without disturbing piping.

Works Equally Well on All Fluids—compressed air lines, air separators, air aftercoolers.

Write for Bulletin 35

Consult us on your requirements

ILLINOIS ENGINEERING COMPANY
INCORPORATED 1900
RACINE AVENUE AT 21ST STREET • CHICAGO 8

If you write maker identify as IEN - 12819

NyGrip*
CABLE CLIPS IN NYLON

*TM.

Hold that wiring with these all Nylon cable clips

- Lightweight
- Tough
- Strong
- No metal to corrode or cause short circuits
- Easy to apply
- No sharp edges
- Chemically resistant
- May be used from −60° to 250° F.

Send for samples and literature

WECKESSER COMPANY

5257 N. Avondale Ave. ✦ Chicago 30, Illinois

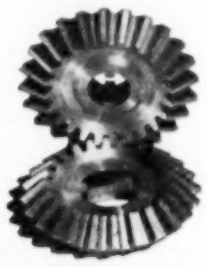
If you write maker identify as IEN - 12820

D.O.James

Established 1888

GEARS For INDUSTRY

SINCE 1888 . . . We have been making many types and sizes of gears for industry. Vast plant facilities of the most modern gear cutting equipment assure capable handling of your *production* or *special* gear requirements.



HELICAL and BEVEL GEARS—From 1" to 60" in diameter and from 24 DP to 1½ DP.
SPUR GEARS—Size range from ¾" to 150" in diameter. 32 DP to ¾ DP.
HERRINGBONE GEARS—Made from 1" to 60" in diameter and from 10 DP to 1½ DP.
SPIRAL BEVEL GEARS—Made from 1" to 30" in diam. and 24 DP to 1½ DP.
WORM GEARS—Made from 1" to 100" in diam. and from 24 DP to 1 DP.

YOUR GEAR INQUIRIES WILL RECEIVE IMMEDIATE ATTENTION
D.O.JAMES GEAR MANUFACTURING COMPANY
1140 W. MONROE ST. • CHICAGO 7, ILL.

If you write maker identify as IEN - 12821

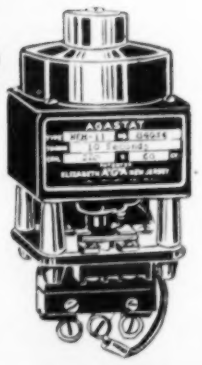
THIRD

in a series of important announcements.

Next month—

the fourth field-tested AGA development to be announced in as many months.

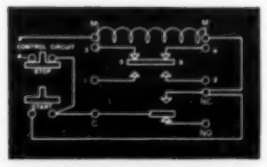
NEW!



AGASTAT

Trademark

TIME DELAY RELAYS with Remote Push Button Control



Wiring diagram
NEH-11 AGASTAT

An auxiliary "hold-in" switch affixed to the bottom of these pneumatic relays makes possible a remote push button control of the time delay. Delays easily adjustable from 0.1 second to 10 or more minutes. A.C. and D.C. units, single or double break contacts. All are lightweight, compact, easily mounted and low in cost.

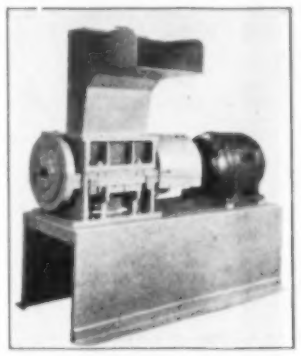
Write for specifications—and ask our application engineers for help with your timing problem. Address Dept. A8-112.

AGA DIVISION — ELASTIC STOP NUT CORPORATION OF AMERICA
1027 Newark Avenue, Elizabeth, New Jersey
Pioneers in pneumatic timing

If you write maker identify as IEN - 12823

CUTTING . . Granulating machine reduces thermoplastics for remelting

Source: CUMBERLAND ENGINEERING CO.
Dept. N11, Box 216, Providence 1, R. I.



Eliminates sawing

Model 20 is a new knife equipped welded steel machine. It takes cylinder purgings from injection molding machines, bleeder scrap from extrusion molding as well as slabs of polystyrene or acrylic resins. It reduces these materials directly to granular form suitable for remelting. The knife equipped rotor is direct connected to a 40-hp. motor operating at 1,200 rpm. Throat opening measures 8 by 20 inches.

If you write maker identify as IEN - 12824

LAYOUT . . Granite surface plate, in 12 by 18 to 48 by 72 inch sizes

Source: COLLINS MICROFLAT CO.
2324-28 E. 8th St., Los Angeles 21, Calif.

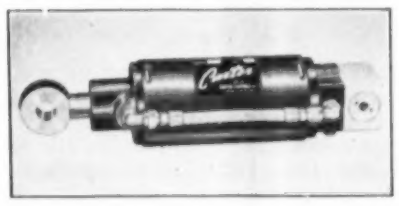
Available nationally

Grey granite is employed in this new line of surface plates to supplement the company's previously developed black granite units. The grey material reduces the cost of the plate about 20 per cent. Surface accuracy is to 0.00005 inch. Plates with two or four clamping edges can be specified.

If you write maker identify as IEN - 12825

CYLINDER . . Pneumatic design, 1½ to 6 in., has built in valve

Source: CARTER CONTROLS INC.
2854 Bernice Road, Lansing, Ill.



Specified stroke

New line of double acting pneumatic cylinders is featured by a built-in operating valve with single or dual speed control. The valve can be actuated by miniature pilot units, either local or remote. It can be converted to solenoid actuation should this be desired.

Cost is less than a separate cylinder and valve which the company also can supply. The cylinder is available in various mountings. Its ports can be turned to any position due to the ring type locks between the heads and the cylinder body.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

PRECISION FILING

is the main purpose of Swiss Pattern files, and their uses have been expanding year after year. Tool, die and model finishing, instrument assembling, bur removals from drilling and machining operations are among their widest fields.

Nicholson is considered today's foremost manufacturer of such files. Shapes, cuts and sizes are almost legion. Measurements are more exacting, points smaller, tapers longer than in American patterns. Nicholson X.F. (*E*xtra *F*ine) Swiss Patterns are the quality handicraft of specially trained file cutters working in a separate section of the Nicholson factory.

ASK YOUR INDUSTRIAL DISTRIBUTOR

for any of these special-purpose X.F. types or groups: Round and Square Handle Needle files (in plastic-box kits of 12 assorted shapes and choice of 3 lengths and 4 cuts); Die Sinkers files; Die Sinkers and Silversmiths Rifflers; Filing Machine files. Individual Crochet, Barrette, Slitting, Crossing, Pippin, Joint, Screw Head, Warding, Equaling, Testing, Round, Flat, Square, Three Square, Knife—and many others. *Free Catalog.*

NICHOLSON FILE CO. • 33 Acorn St., Providence 1, R. I.
(In Canada: Nicholson File Company of Canada Ltd., Port Hope, Ontario)

NICHOLSON U.S.A. — **NICHOLSON** — *A FILE FOR EVERY PURPOSE*

If you write maker identify as IEN - 12827

Fielden tektor

ELECTRONIC LEVEL CONTROL

- *Simple, Fail-Safe, Hi or Lo Level Control*
- *Available in Class I-D, Class II-F & G Construction*
- *No Moving Parts, Only One Radio Tube*
- *Accurate Level Control as Close as 1/16"*
- *Low First Cost, Low Operating Cost*

The Fielden TEKTOR provides constant, accurate level indication or control of any material—liquid, divided solid or interface, conducting or non-conducting, wet or dry. Offers a low cost solution to practically every problem of fixed level control or limit alarm without need for special apparatus. Operates visual or audible alarms, motor starters, solenoid valves, timers and other equipment simply, accurately by means of a highly stable capacitance operated relay circuit. Does not depend on electrical conductivity. Ideal for remote control or warning. Provides all the accuracy needed at a sensible price. Thousands now in use. Write for detailed information to **Dept. E.**

Fielden
INSTRUMENT DIVISION
ROBERTSHAW-FULTON CONTROLS COMPANY
2920 N. 4th St., Philadelphia 33, Pa.
Dollar for Dollar—Your Best Instrument Value

If you write maker identify as IEN - 12828

LITTLE DIAL...

Tells big story about Temperature, Pressure or Load!

The dial is only 6" in diameter, but bold numerals and graduations make it easy to read at a glance.

For Temperature, mercury, gas, organic liquid (Monolex) or vapor actuated systems to fit nearly every type of application. Ranges from minus 125°F. to +1200°F.

For Pressure, range spans from 12 psi to 20,000 psi are available using Bourdon springs or C springs of appropriate metals for required service.

For Load, standard tension and compression load elements are incorporated to use a new mercury Bourdon spring.

New Movement Design minimizes linkage error, means more dependable accuracy throughout the range span.

Fume and moisture proof case may be face or flush mounted, panel or field.

Electric alarm mechanisms, easily and quickly adjusted—optional.

Ask your Taylor Field Engineer, or write for **Bulletin 98214.** Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada.

TAYLOR INSTRUMENTS MEAN ACCURACY FIRST

If you write maker identify as IEN - 12829

Protects AIR TOOLS AND EQUIPMENT

against rust, scale and condensation in the air line . . . provides constant lubrication

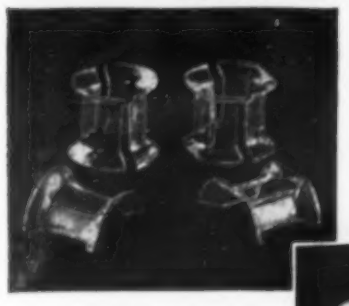
The Keller Lubricator-Filter operates automatically when air tools or equipment are in operation. Filter removes moisture as well as solids—easily cleaned by opening drain cock at bottom. Oil feeds from the lubricator through an upright wick—no flooding or waste when tools are not in use.

Transparent bowls show when filter needs draining, or when light spindle oil should be added to lubricator. Write for descriptive Bulletin #65-5.

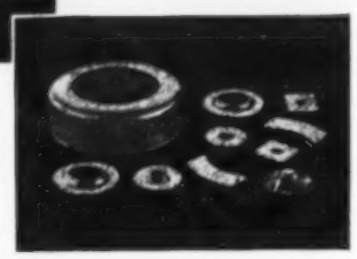
Send for **illustrated descriptive bulletin and detailed information**

Keller Tool Company
GRAND HAVEN, MICHIGAN

If you write maker identify as IEN - 12830



HOW TO SAVE MOLD COSTS...



on Insulators, Washers and Small Parts Plastic-Fabricated by SILLCOCKS-MILLER

Sillcocks-Miller engineers now enable you to get small plastic parts, such as insulators, washers, etc. through a special fabricating process that saves the cost of molds.

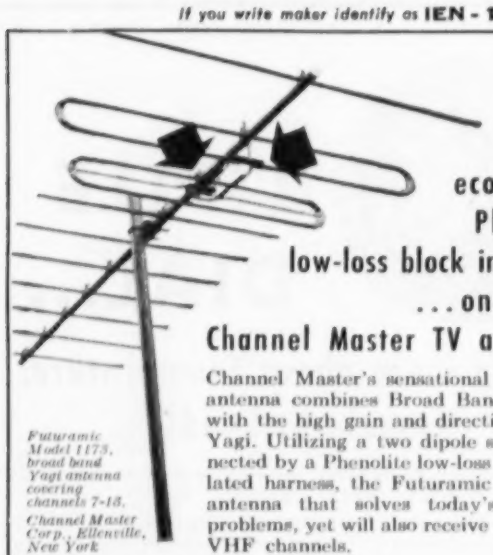
The development of this process has opened the possibility of fabricating thin wall pieces such as insulators, etc., and offers economy without sacrifice of quality or service life.

You are invited to submit your specifications on small parts of this type for recommendation.

The SILLCOCKS-MILLER Company
Pioneers in Plastic Fabrication since 1910

27 West Parker Avenue · Maplewood, N. J.

If you write maker identify as IEN - 12831



Futuramic Model 1173, broad band Yagi antenna covering channels 7-13. Channel Master Corp., Ellenville, New York

economical Phenolite low-loss block insulators ...on famous Channel Master TV antennas

Channel Master's sensational Futuramic antenna combines Broad Band coverage with the high gain and directivity of the Yagi. Utilizing a two dipole system connected by a Phenolite low-loss block insulated harness, the Futuramic is the one antenna that solves today's reception problems, yet will also receive tomorrow's VHF channels.

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nationally known—nationally accepted

NATIONAL VULCANIZED FIBRE — A tough, horn-like material with high dielectric strength. Excellent machinability. Sheets, Rods, Tubes, Special Shapes.

PHENOLITE Laminated PLASTIC — Good electrical insulating material with great mechanical strength; moisture resistant. Sheets, Rods, Tubes, Special Shapes.

NATIONAL VULCANIZED FIBRE CO.
Wilmington, Delaware — Offices in Principal Cities
Since 1873

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NEW SBS WATERLESS WASHSTATION*
"brings the washroom to the worker"*
for only $52.50 per unit
(F.O.B. Saginaw, Mich.
Towel Dispensers not included)

SBS Waterless Washstations are complete units for hand washing on the job. Because they dispense SBS-30 Waterless Skin Cleanser, these Washstations require no plumbing . . . SBS-30 is simply rubbed on the hands and wiped off along with all the soil.

SBS Waterless Washstations —

- In Trouble Spots — Avoids workers use of irritating, harmful solvents. Quickly and safely removes tars, greases, paints, varnishes and other hard-to-remove soils.
- On the Production Line — Cuts to a minimum costly interruptions for hand washing.
- Actually Earn You Money — By eliminating one unnecessary trip per day for hand washing by only 10 men, you can save up to $720 annually.

Fill out and mail the coupon below for complete information about SBS Waterless Washstations and our 30-day no-risk money back trial offer.

*Trademark

92-A

SUGAR BEET PRODUCTS CO., Dept. 7E, SAGINAW, MICHIGAN
Sirs: Please send me full information about the new SBS Waterless Washstation and your 30 day no-risk money back trial offer.
NAME
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COMPANY
CITY ZONE STATE

SUGAR BEET PRODUCTS CO. • Saginaw, Mich.
Chemical By-Products Division

NEW LITERATURE—Continued

Identify as IEN - 0853

GEARS . . 180-page pocket Catalog 70 covers stock gears, speed reducers, special gears. It contains data on gear design, hp. ratings, pitch tables, trigonometry tables. Grant Gear Works Inc., 152-56 W. 2nd St., Boston 27, Mass.

Identify as IEN - 0854

HEATING ELEMENTS . . Electric rod heaters, immersion units for water and oil, finned elements for air, also strip, ring, band, and cartridge heaters. Calculations, application guide, list prices in 36-page Catalog 53. Heatube Corp., 610-14 Grand St., Allegan, Mich.

Identify as IEN - 0855

HEATING ELEMENTS . . How to select and apply electric heating elements in strip, cylindrical, ring, cartridge, tubular, immersion types, also package sealing units and hot plates, in 64-page "Heating Unit" catalog. Watlow Electric Mfg. Co., 1374-78 Ferguson Road, St. Louis 4, Mo.

Identify as IEN - 0856

PROCESS HEATING . . Air heaters, burners, ovens, radiant heaters, immersion units, hot-oil heaters, steam generators, water heaters, made by others but engineered and sold by the company. Catalog, 28 pages. Beltran Associates Inc., 60 Spring St., New York 12, N. Y.

Identify as IEN - 0857

HOISTS . . Electric wire-rope hoist in four capacities from 250 to 2,000 lb. with bolt, hook or trolley suspension. Bulletin 182, 16 pages. Shepard Niles Crane & Hoist Corp., 408-12 Schuyler Ave., Montour Falls, N. Y.

Identify as IEN - 0858

HOISTS . . Differential, screw gear and spur-geared hand hoists are compared as to efficiency and relative cost; electric hoists are compared feature by feature; application suggestions. Bulletin 1567, 12 pages. Yale & Towne Mfg. Co., 11002 Roosevelt Blvd., Philadelphia 15, Pa.

Identify as IEN - 0859

ELECTRICAL INSULATION . . Catalog of 140 pages has price information on twines, tapes, sleevings, papers, laminated plastics, varnishes, mica products, coated fabrics, other materials. Ask for Price Catalog 15. Insulation Mfrs. Corp., 563-67 W. Washington Blvd., Chicago 6, Ill.

Identify as IEN - 0860

ELECTRICAL INSULATION . . Synthetic rubber material to make electrical connectors vibration and moisture proof, originally developed for aircraft. Mixing, handling, performanance in 9-sheet Data EC-1120-PC. Minnesota Mining & Mfg. Co., 423 Piquette Ave., Dept. IEN, Detroit 2, Mich.

Identify as IEN - 0861

LAMINATING . . Continuous automatic process machines combine webs of paper and other materials with foil, films, felt base, paperboard and rigid materials such as plywood and steel sheet, using hot or cold adhesives. Examples of 2-ply to 5-ply in 4-page Bulletin 1000. John Waldron Corp., P. O. Box 791-A, New Brunswick, N. J.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12833

ELECTRODES, HOLDERS, FORGINGS, CASTINGS, ALLOY ROD and BAR STOCK . . . . For Better Resistance Welding.

means...

WEIGER-WEED SHIPS THE SAME DAY!

Service is what you can count on from Weiger-Weed. Many of the electrodes and holders listed in WW Catalog 14.650-4 are carried in stock. And, by means of a streamlined order-handling system, shipment is made from this stock on the same day the order is received. If there is not sufficient quantity on hand, part of your order is shipped immediately, the remainder later.

Along with this new, fast SSD service, you can continue to count on WW top quality in resistance welding materials.

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WRITE, WIRE OR PHONE YOUR ORDER TODAY

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Teletypewriter DE-1179
Telephone TExas 4-8400

Weiger-Weed & Company, Division of Fansteel Metallurgical Corporation, 11644 Cloverdale Avenue, Detroit 4, Michigan

If you write maker identify as IEN - 12834

Sturtevant MICRONIZER* GRINDING MACHINE

Reduces Solids to Micron Sizes

The new Sturtevant *Micronizer* grinding machine is a fluid jet grinder especially designed to reduce solid materials to particle sizes in the micron ranges.

Sturtevant *Micronizers* are used for simultaneous dry grinding and classification of solids. The variety of materials that can be processed is large and includes both metallic and non-metallic minerals and ores, metals, pigments, insecticides, fungicides, pharmaceuticals, plastics, dyes and numerous other organic and inorganic products. Available in capacities from ½ to 3000 pounds per hour.

*Micronizer is the Registered Trademark of the Sturtevant Mill Co.

STURTEVANT MILL COMPANY
113 CLAYTON STREET, BOSTON 22, MASSACHUSETTS
Designers & Manufacturers of:
DENS AND EXCAVATORS • MIXERS • SCREENS • PULVERIZERS
ELEVATORS • AND COMPLETE FERTILIZER UNITS

If you write maker identify as IEN - 12835

Use Grammes METAL NAME PLATES

For LOWEST COST per good impression!

Get SERVICE you can rely on!

PROMPT DESIGN SERVICE! Your rough sketch or blueprint will bring prompt recommendations and prices. Write for our new booklet, "Tips on Name Plate Selection and Design"

METAL STAMPINGS — NAME PLATES DIALS — L.F. GRAMMES & SONS INCORPORATED ALLENTOWN, PA. — ADVERTISING SPECIALTIES — TRIMS • BEZELS PANELS

SPECIALISTS IN DECORATIVE METAL

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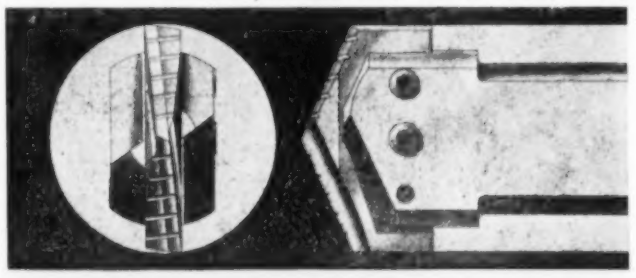

Drill Large Holes from the Solid with Interchangeable Spade Drills

Made in 256 cutter sizes, 1 to 5 inch diameter, in steps of 1/64, Conner type Spade Drills drill the required diameter in one operation, need no retracting to clear them of chips. Only eight sizes of holders are needed to handle all cutter sizes.

For general purpose work and in the tool room, use the cutter and holder assembly shown above. It is a tool of great rigidity, recommended for large holes of medium depth.

For production drilling, (for repetitive work), and for the somewhat deeper holes, use Conner type Oil Hole Holders, designed for easy coolant flow and fast chip explusion.

Core Drill Cutters, for semi-finishing of cored and drilled holes, made in the same 256 sizes, fit the same drill holders.

Send for Catalog and Price List

NOW made by GAIRING

THE GAIRING TOOL COMPANY
21234 Hoover Road, Detroit 32, Michigan

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100 MARKS IN A MINUTE OF MARKING TIME

Marking production will rise with the use of Matthews "AIRGRIT" Marking Machine . . . it takes about a half-second to complete the normal marking cycle with this amazing unit. "AIRGRIT" produces a permanent mark on plastic, glass, cutlery, machined parts . . . parts with delicate or precision finishes which conventional marking methods would mar or distort. "AIRGRIT" . . . the compact, safe, easy-to-operate, revolutionary marking unit for producing permanent, distortion-free, economical marks.

Write Matthews today for literature and information, and a sample of "AIRGRIT" marking.

JAS. H. MATTHEWS & CO.
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CLIFTON, N. J. BOSTON PHILADELPHIA CHICAGO

If you write maker identify as **IEN - 12838**

New... A Measurable, Economical, Simple Method of Applying

V.P.I.* VAPOR PHASE INHIBITOR

MORE EFFICIENT
•
ELIMINATES GUESSING
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SAVES COSTLY WRAPPING
•
NO MORE DEGREASING
•
IMMEDIATELY EFFECTIVE
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The Only RUST PREVENTIVE OFFERING METERED APPLICATION!

Kerpro V. P. I. is a measured solution of Shell Development Company's vapor phase inhibitor, packed in a convenient, pressurized dispenser...*the only method by which metered application is assured.* A ten-second spray delivers one gram of V. P. I. sufficient to protect a minimum of one cubic foot of space for at least one year. Because *Kerpro* V. P. I. immediately saturates the air in containers, tool cribs, precision instrument cabinets, etc., protection is not dependent upon crystal evaporation... rust protection is *sure* and *immediate.*

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Get all the facts on *Kerpro* V. P. I. Rust Preventive. Learn how it saves you real money in wrapping and crating...saves your customers degreasing costs and yet gives your products *positive, measured rust protection.* Your inquiry entails no obligation.

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* V. P. I. a Shell Development Co. Product

PROTECTIVE COATINGS CORP., 9 S. Fairview Ave., Park Ridge, Ill.
Please send us 12 oz. test sample of Kerpro V. P. I.

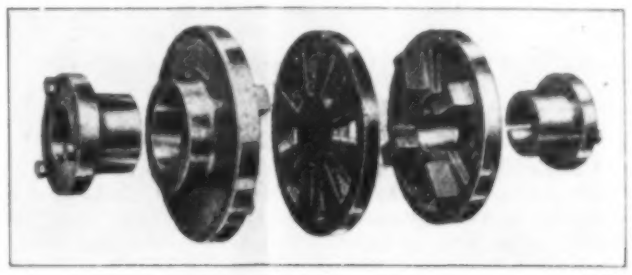
☐ Bill us $2.25 on open account. ☐ Remittance enclosed.

☐ Send full details and quantity discounts.

If you write maker identify as **IEN - 12840**

DRIVE . . Flexible coupling with split interchangeable hubs

Source: T. B. WOOD'S SONS CO.
1200 Fifth Ave., Chambersburg, Pa.



Specifications in Bulletin 496

Sure-Grip tapered split hubs can be selected for a given shaft diameter and quickly applied in this new flexible coupling. Three screws pull the hub into the tapered bore in the coupling flanges to center the coupling and grip the shaft.

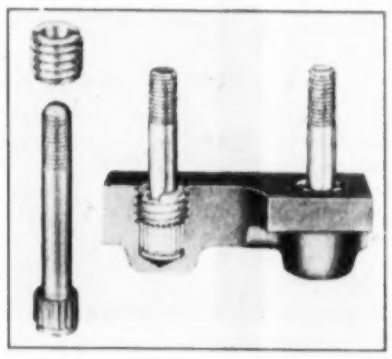
The cast iron flanges carry integral cast lugs. They are machined for balance and plastic coated for corrosion prevention. The radial lugs are designed for uniform bearing pressure on the center disc. It is made of laminated fabric impregnated with neoprene. It can be specified in oak-tanned leather. There is no metal to metal contact between the two coupling halves.

Seven coupling sizes rate 1½ to 28 hp. at 100 rpm. Maximum recommended speed is 3,600 rpm. for the smallest unit and 2,300 rpm. for the largest one. Maximum bore for the Sure-Grip hub is 1⅝ to 3 7/16 inches. Coupling diameter is about 4 to 10 inches. Overall length is about 4 to 9 inches. List price for the complete coupling is $18.70 to $78.60. Single hubs list at $1.90 to $9.

If you write maker identify as **IEN - 12841**

FASTENING . . Stud and collar provide anchor in metals or plastic

Source: NEWTON INSERT CO.
1319-23 E. 17th St., Los Angeles 21, Calif.



Catalog on request

Fluted stud and a threaded collar make up a new anchor assembly for installation in aluminum, magnesium, plastics where high resistance to rotation and to pull-out are required. The stud presses into place, the flutes cutting their way into the wall of a hole. The collar is then turned down, on threads previously machined in the hole, until the collar presses against the shoulder of the flutes. In this position the stud is held against rotation or longitudinal movement.

Stud sizes range from No. 8-36 to 5/16-18. Insert length ranges from ⅜ to ⅝ inch. The locking collar can be removed to release the stud and can be replaced, in connection with a new stud, if the latter is damaged in service. The studs are available in cadmium plated alloy steel, stainless or special alloy.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 12842**

Here's Efficient, Dependable Air Supply

JOY WL-80 "UNITAIR" COMPRESSOR

★ 81 to 640 CFM
★ Two Stage ... Air cooled
★ A size for *every* standard motor rating
★ Force-feed lubrication
★ Small floor-space requirements

And here's FREE HELP!

Bulletin A-56 . . . new, with 16 fact-filled pages and a Selector Chart. Write for it to select the right compressor for your needs.

Consult a Joy Engineer

W & B 13986

JOY MANUFACTURING CO.
General Offices: Henry W. Oliver Building
Pittsburgh 22, Pa.
IN CANADA: JOY MANUFACTURING CO. (CANADA) LIMITED
CALT, ONTARIO

If you write maker identify as **IEN - 12843**

HERMAN NELSON
PORTABLE AIR HEATERS

Get all the FACTS about all Portable Heaters. Write to American Air Filter Company, Inc., Dept. 104, Moline, Illinois.

Why take chances with temporary heat you can't always trust? Put Herman Nelson Portable Air Heaters on the job and have complete safety assured!

Herman Nelson heaters have vented, sealed flame heat and automatic safety controls. There's no danger of fire, no danger from carbon monoxide or other fumes, no danger of job-ruining smoke or soot. Combustion products are carried outside the working area—and clean, warm air is directed inside to any spot by flexible canvas ducts.

Be sure you get safety, dependability, performance—be sure you get Herman Nelson, the only complete line of completely safe Portable Air Heaters.

Herman Nelson Portable Air Heaters, another product of American Air Filter Company, Inc., Moline, Illinois.

If you write maker identify as **IEN - 12844**

APPLY GLUE 30% FASTER
direct from original containers!

with Alemite **VERSATAL PUMPS!**

Air operated Versatal Pumps can save up to 30% of labor costs in handling glue by delivering material direct from original containers to point of application.

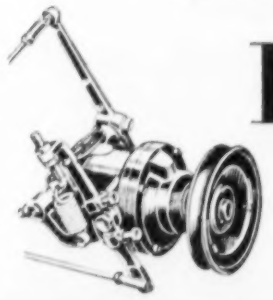
Versatal Pumps end troublesome handling, transferring, old-fashioned and expensive methods of application. Save time, work, money!

Each pump serves up to six outlets. Pressure sends adhesives through as much as 1,000 feet of hose or pipe.

FREE! A book of ideas on how Alemite Versatal Equipment can help solve your material handling problems. Write: Alemite, Dept. 8-113, 1830 Diversey Parkway, Chicago 14, Illinois.

ALEMITE *Versatal* SPRAY-PUMP EQUIPMENT

If you write maker identify as **IEN - 12845**



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ONE GOVERNOR ONE MODEL . . .
for 9 out of 10 industrial and farm engines

PIERCE LONG RANGE UNIVERSAL GOVERNOR

● Instant variable speed selection and accurate engine control at any speed setting within 1200 to 2600 RPM. Higher and lower ranges obtainable by simple change of pulley. Also "constant speed" operation.

● Accurate, dependable speed control for engines operating corn shellers, drag lines, hoists, arc welders, trucks and tractors with power take-offs, etc.

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List Price **$39.50** Pulley extra

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1636 Ohio Avenue, Box 1000, Anderson, Indiana, U. S. A.

WORLD'S MOST EXPERIENCED GOVERNOR MANUFACTURER

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Pangborn HYDRO-FINISH

- deburrs • removes scale
- prepares surfaces for electroplating
- removes, blends grinding lines
- finishes threaded sections for fit
- improves die making and maintenance
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PANGBORN Hydro-Finish does all these jobs and more! Fine mesh abrasives suspended in water give you a precision finish . . . hold tolerances to .0001". Vary abrasives, air pressures, work distances, ratio of liquid to abrasive and you can do almost any finishing job faster and better!

GET THE FACTS on how Hydro-Finish can save *you* money! Write for Bulletin 1400A to: PANGBORN CORPORATION, 2300 Pangborn Blvd., Hagerstown, Md.

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with the right equipment for every job

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There's many a slip...
but it only takes one to cost money!

PABCO GRIP-TREAD MASTIPAVE FLOOR COVERING

Saves Money...Four Ways!

NON-SLIP, SUPER-TOUGH
RESILIENT, LOW-COST

These four money-saving ways are why factories, schools, office buildings, hospitals, and Governmental institutions and others specify Pabco Grip-Tread MASTIPAVE...

1. *Non-Slip* Grip-Tread Mastipave prevents accidents. It's the safe floor with built-in brakes.
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4. *Non-Slip* Grip-Tread Mastipave is low cost. Low-cost installation, low-cost maintenance, long wearing qualities. You can't lose—investigate today. Clip the coupon below and learn how you can show a real money value to your company.

FILL OUT THIS COUPON

PABCO PRODUCTS INC.
New York 16 • Chicago 54 • San Francisco 19
(Mail to Dept. B nearest office)

GENTLEMEN: Without cost or obligation to me, please send your folder, "Every Building needs Pabco MASTIPAVE."

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CITY _____ STATE _____

NEW LITERATURE—Continued

Identify as IEN - 0862

PLANT LAYOUT . . Suggested method for making plant layouts to scale by means of photocopy printing. It is given in the form of a 10-step procedure by 4-page bulletin, "Plant Layout System". Peerless Photo Products Inc., 652 Tesla Road, Shoreham, N. Y.

Identify as IEN - 0863

LUBRICATING . . Automatic assembly to lubricate conveyor trolley wheels as they pass by on the track, also an assembly to lubricate chains, carriers and rollers in motion. Form 22-225 Rev., 6 pages. Alemite Div., Stewart-Warner Corp., 1828 Diversey Parkway, Chicago 14, Ill.

Identify as IEN - 0864

LUBRICATING . . Gravity and pressure-type filters for oil in paper mill machine lubrication, also feed valves and accessories. Bulletin 14-B, 8 pages. Wm. W. Nugent & Co., 414 N. Hermitage Ave., Chicago 22, Ill.

Identify as IEN - 0865

MACHINERY . . Design and construction of special production machines, fixtures and gages are illustrated in 12-page "Design and Build" booklet. Ace-Central States Machine Tool Co., 3803 Trenton St., Detroit 10, Mich.

Identify as IEN - 0866

PERMANENT MAGNETS . . Grade-7 Alnico is a cast material resistant to demagnetization influences such as motor or generator fields. Design considerations and properties in 4-page Technical Report PM-112. Carboloy, Dept. General Electric Co., 11167 E. 8-Mile Rd., Detroit 32, Mich.

Identify as IEN - 0867

MIXING . . Dissolving and dispersing machines employ hydraulic shear for materials from biologicals to explosives. Bulletin, "Ultra Fast Dissolvers", 16 pages. Cowles Co., 150 Trackside Place, Cayuga, N. Y.

Identify as IEN - 0868

MIXING . . Mechanical mixer for liquids and powders has a complex action in which material is slid, thrown back and forth and also up and down as the container revolves. Laboratory performance results are given in 7-sheet report, Bulletin FS-238, with shapes or containers handled. Fisher Scientific Co., 719 Forbes St., Pittsburgh 19, Pa.

Identify as IEN - 0869

MOTORS . . Single and polyphase ac. motors from 1/6 to 500 hp. are reviewed in 12-page Condensed Catalog as to designs, electrical characteristics, enclosures, performance. Howell Electric Motors Co., 853 Howell St., Howell, Mich.

Identify as IEN - 0870

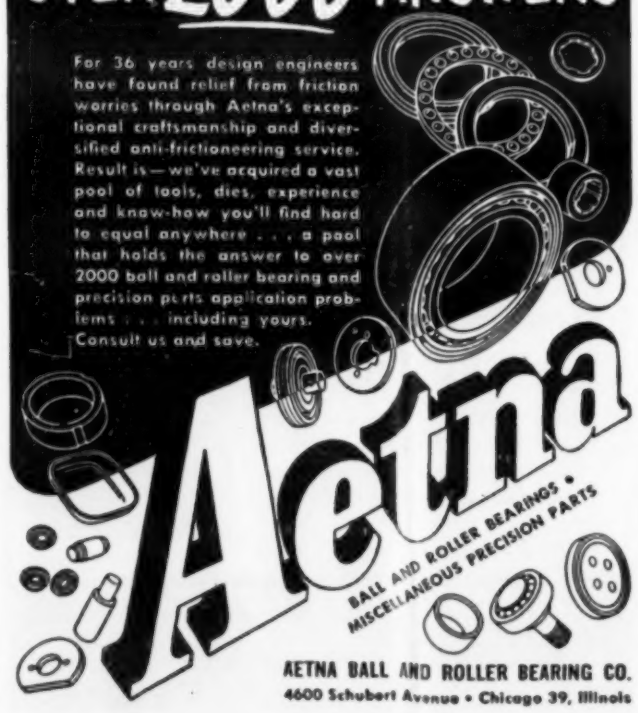
MOTORS . . 400-cycle three-phase units, 1/20 to 16 hp., to drive auxiliary equipment in aircraft. Standard and geared models in 8-page Bulletin F-1535. U. S. Electrical Motors Inc., Box 2058-A, Term. Annex, Los Angeles 54, Calif.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12849

ASK US . . . WE HAVE OVER 2000 ANSWERS

For 36 years design engineers have found relief from friction worries through Aetna's exceptional craftsmanship and diversified anti-frictioneering service. Result is—we've acquired a vast pool of tools, dies, experience and know-how you'll find hard to equal anywhere . . . a pool that holds the answer to over 2000 ball and roller bearing and precision parts application problems . . . including yours. Consult us and save.



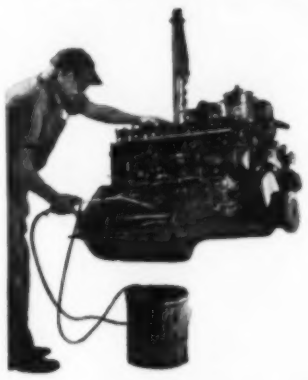
AETNA BALL AND ROLLER BEARING CO.
4600 Schubert Avenue • Chicago 39, Illinois

If you write maker identify as IEN - 12850

TOPS FOR Metal Cleaning

BRULINSOLV

a concentrated solvent emulsion cleaner



BRULINSOLV is a fast acting, liquid concentrate, which when mixed with low cost solvents steps up cleaning action of the solvent. Its action is much the same as detergent in water. This permits easy flushing of surface with water.

It is safe to use—is non-toxic and non-corrosive, the odor is pleasant. It is free of chlorinated or phenolic compounds.

Used extensively for cleaning machinery and equipment, office machines and typewriters, aircraft surfaces, painted or unpainted concrete floors and is so safe it may be used in cleaning grease, tar and oil from hands.

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Write today for more complete information.

BRULIN & COMPANY, INC.
2938 COLUMBIA AVENUE • INDIANAPOLIS 7, INDIANA

If you write maker identify as IEN - 12851

DESIGN FOR Ruggedness

HARTWELL **H-5150 Flush Latch**

The new H-5150 flush latch is ideal for any use calling for a large, rugged latch. Its bolt contains a spring loaded button that allows for variations in closure contact due to misaligned doors and frames. The 1¼" x 1½" operating trigger makes this latch easy to open even when operator is wearing heavy gloves or mittens. The H-5150 is made of stainless steel, coated cold rolled steel or heat treated aluminum in various offset combinations for different door and frame thicknesses.

Write for new Hartwell Flush Latch and Hinge Catalog.

HARTWELL COMPANY
9035 VENICE BOULEVARD, LOS ANGELES 34, CALIFORNIA

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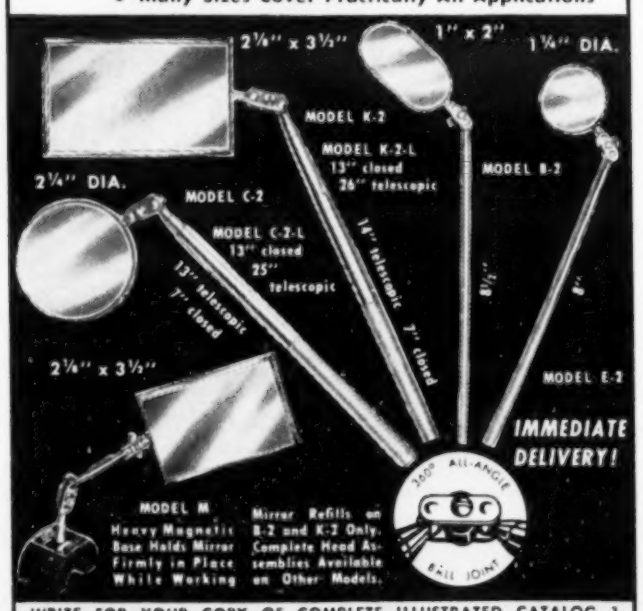
WORK INSPECTION MIRRORS

speed production • prevent accidents

- Exclusive All-Angle Ball Joints
- Precision Engineered
- Replaceable Copper-Backed Clear View Mirrors
- Folds and Fits into Pocket
- Many Sizes Cover Practically All Applications



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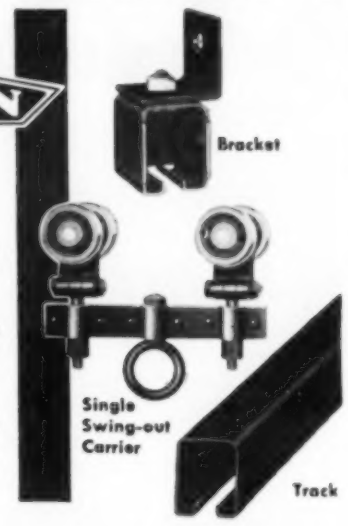
ULLMAN PRODUCTS CORPORATION
17 RIVER STREET • NORWALK, CONNECTICUT

If you write maker identify as IEN - 12853

COBURN

OVERHEAD CONVEYING EQUIPMENT

simple, easy installation



Coburn track, brackets and carriers are simple in design . . . present no complicated installation problems. In fact, your own plant personnel can easily handle the job. Inexpensive re-arrangement or extension can also be made at any time because of the section design of Coburn Overhead Monorail.

Write for Catalog #220 to Coburn Sales and Engineering, 56 Sterling Street, Clinton, Mass.

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PRODUCTS OF WICKWIRE SPENCER STEEL DIVISION
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BURRELL

"For Scientists Everywhere"

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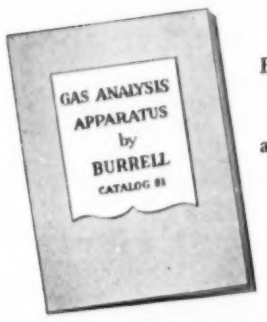
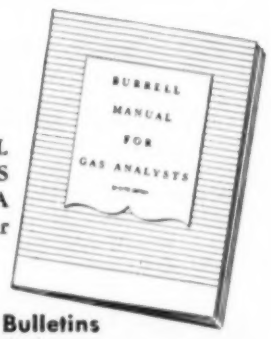


BURRELL CATALOG 81
Lists and describes current gas analysis apparatus and equipment.



BURRELL MANUAL *for* GAS ANALYSTS *—Seventh Edition.* A helpful handbook for the gas analyst.

Current Burrell Bulletins
(Order by number)

306 CO_2 INDICATOR Offers instrument to measure CO_2 content in stack gases.

307 Wrist-Action SHAKER Describes shaker, listing various types and sizes for general laboratory use.

310 TUBE FURNACES Gives specifications of complete line of high-temperature tube furnaces.

313 Industro GAS ANALYZERS Presents two models. Shows structural features, operating procedures.

314 TUBES AND BOATS Catalogs combustion tubes and boats for use with high-temperature furnaces.

315 BOX and MUFFLE FURNACES Provides data on five models of furnaces for high-temperature use up to 2650° F.

319 BURRELL COMBUSTRON Describes high frequency heaters for carbons-by-combustion in ferrous metals.

323 BURRELL CARBOTRANE Presents complete unit-package trains for gravimetric carbons-by-combustion.

327 BURRELL SOLUTIONS Lists modern reagents and solutions for gas analysts.

Register Your Name

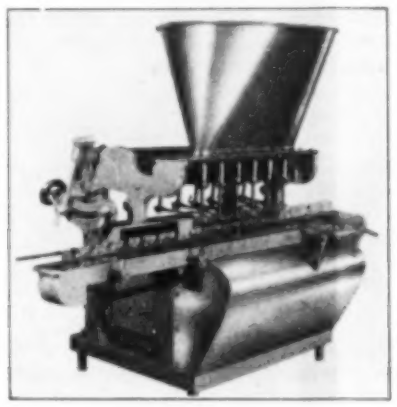
List your name and interests—we will send you bulletins as published at no obligation.

BURRELL CORPORATION
Manufacturers and Distributors of
SCIENTIFIC APPARATUS and LABORATORY CHEMICALS
2223 Fifth Avenue, Pittsburgh 19, Pennsylvania

If you write maker identify as IEN - 12856

PACKAGING . . Filling machine delivers semi-liquids into containers

Source: HOPE MACHINE CO.
9405-09 State Road, Philadelphia 14, Pa.



Built for high speed

Liquid soap, glue, grease, cosmetics, pharmaceuticals, dressings, jellies, preserves, are typical products that can be filled into containers in adjustable amount, from ½ to 32 oz. per container, with this new Type-19A machine. Containers in the form of glass jars, plastic bottles, tin cans, paper cups, are moved by an in-feed conveyor to line up with a rising table. The containers are moved side-wise to this table. It lifts them to fill from the bottom up as the table moves back down. The containers then again move sideways to the parallel delivery conveyor to issue from the machine.

Capacity is 50 to 100 containers per min. with four filling heads. It is 125 to 250 containers per min. with 10 heads. The six head assembly measures about 8 ft. in length by 4 ft. in width. The assembly includes a variable speed control. Accessories to include agitators, oil and water jackets, manifold chests and special dripless nozzles can be specified.

If you write maker identify as IEN - 12857

GRINDING . . Abrasive belt machine to finish sharpen carbide tool bits

Source: HAMMOND MACHINERY BUILDERS INC.
1607 Douglas Ave., Kalamazoo, Mich.

No special skill

The abrasive belt in this new Model 454 grinding machine takes the place of a diamond wheel for the finishing operation of sharpening carbide tools. The operation follows rough grinding on a silicon carbide wheel. The machine applies in finishing end, top and side clearance angles. It also can be used on tools made of high speed steel.

The belt rides vertically between two of the three belt wheels. It passes over a flat platen faced with tungsten carbide. The pulleys are dynamically balanced and are mounted on sealed ball bearings. The work applies on a 10 by 7½-in. adjustable work table that can be positioned between 20 deg. above and 20 deg. below horizontal. Belt speed is 4,500 rpm. The belt measures 4 by 54 in. and is of the type manufactured by Behr-Manning Corporation particularly for this grinding operation. The machine weighs 335 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12858

A CLEVELAND *air* vibrator on your handling devices will get stubborn materials moving like clockwork.

We've solved a wide variety of arching, bridging and plugging problems on a broad industrial front with our complete line of air vibrators.

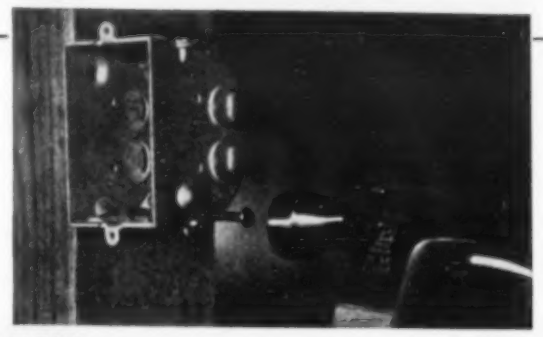
There's a size and type, either quiet, air-cushioned or standard metallic impact, to fit your particular need. Engineering recommendations will gladly be supplied without charge.

Write for catalog No. 109.

THE CLEVELAND VIBRATOR COMPANY
2736 Clinton Avenue • Cleveland 13, Ohio

If you write maker identify as IEN - 12859

LEVELOCK SWITCH BOX



NOW faster mounting speed

DEEP LEVELOCK BOXES for nonmetallic or armored cable can be mounted in a hurry without taking them apart, because they have nail-through holes in addition to conventional sideplate nail holes.

For a folder which describes the many new types that General Electric has added to its big line of boxes, write to Section C27-1142, Construction Materials Division, General Electric Company, Bridgeport 2, Connecticut.

You can put your confidence in—

GENERAL ELECTRIC

If you write maker identify as IEN - 12860

modernize materials handling with

CARGOTAINERS

Cargotainers are designed to keep pace with modern methods of materials-handling because they are: 1. Sturdy and resistant to shock; 2. Readily folded when not in use; 3. Open mesh so that contents may easily be seen for quick inventory; 4. Efficiently designed for shipment, assembly line use, and vertical storage. Write for information concerning the new CLEARVIEW model with its exclusive base construction for greater durability and better locking and stacking. Dept. IEN, Pittsburgh Steel Products Co., Grant Bldg., Pittsburgh 30, Pa.

Pittsburgh Steel Products Company
A Subsidiary of Pittsburgh Steel Company

If you write maker identify as IEN - 12861

THIS DOCKBOARD IS 5 YEARS OLD – *and still going strong!*

When this company bought this Magcoa Magnesium Dockboard back in 1948, it made an investment in safe, light-weight, heavy-duty, *permanent* equipment. The first cost was the only cost.

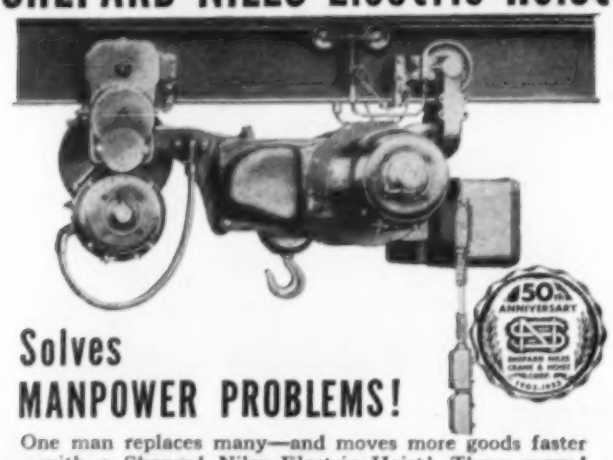
How about you? Are you still risking workers, lift trucks and loads on a dangerous, makeshift bridgeplate? Replacing one beat-up, worn-out piece of plate with another one that really isn't any better? Why keep on paying and paying for heavy-metal plate never intended for that use, even by the companies that sell it? As a matter of fact, many of them were among the first to switch to safe, long-lasting Magcoa Dockboards—the line with more in-use service than all competitive equipment combined.

But why wait? Get the facts . . . contained in the free new Magcoa *Dockboard Facts File.* And be sure to look into the new Magcoa Portable Yard Ramp: a rugged, high-speed loading dock . . . where and when you want it. Write today.

MAGNESIUM COMPANY OF AMERICA
MATERIALS HANDLING DIV. • EAST CHICAGO 14, IND.

If you write maker identify as **IEN - 12862**

SHEPARD NILES Electric Hoist



Solves MANPOWER PROBLEMS!

One man replaces many—and moves more goods faster—with a Shepard Niles Electric Hoist! These rugged hoists free floor space for production, put waste ceiling area to work—enable an older man, woman or youth to handle heaviest loads with ease.

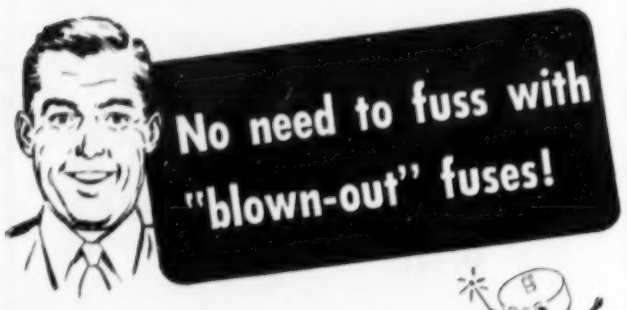
Learn how a Shepard Niles Hoist—in light, medium or heavy capacity—fits into your production picture. Let a Shepard Niles representative help you select the right capacity and controls for your handling job. Write today for latest bulletins—and ask to have a representative call

HOISTS Operated from Cab, Floor or Pulpit. Cap: 1 to 20 Tons.

CRANES Overhead: Top Running, Inner Running, Under Running, Floor or Cab Operated. Cap: 1 to 450 Tons.

SHEPARD NILES
CRANE AND HOIST CORPORATION
1028 SCHUYLER AVENUE, MONTOUR FALLS, N.Y.

If you write maker identify as **IEN - 12863**



Modernize with MINI-BREAKER®

. . . the amazing new Permanent Circuit Protector that fits like a fuse in standard Edison base fuseholders!

Never before has there been a circuit protective device like MINI-BREAKER! Because here, for the first time, is a rugged U.L. listed permanent Circuit Protector that can actually be used as a *direct replacement* for expendable plug type fuses. There's no additional equipment to buy, no special wiring or rewiring required when used on existing fuse-protected circuits. No installation cost or needless interruption of electrical service, either. Anyone can install MINI-BREAKERS in a mere matter of seconds just like the "one-shot" fuses they're designed to replace.

PROVIDES PERMANENT PROTECTION AGAINST OVERLOADS AND SHORT CIRCUITS!

Yes, MINI-BREAKERS end forever the needless cost and inconvenience of replacing blown-out fuses. They safely interrupt excessive overloads and short circuits . . . tripping instantly on "shorts," but with a built-in time lag to handle temporary starting loads and line surges. 100% trip-free, too. Yet, as soon as the circuit is safe again, all you have to do to restore electrical service is press in and release the shockproof reset button! Simple, practical, convenient! Never need be replaced!

THE ONLY DEVICE OF ITS KIND LISTED BY UNDERWRITERS' LABORATORIES, INC.!

MINI-BREAKER is a precision-built, pre-tested and inspected "Circuit Protector" . . . the only device of its kind listed by Underwriters' Laboratories, Inc. Now available in 15, 20, and 30 ampere ratings, for A.C. service only, up to 125 volt maximum.

MECHANICAL PRODUCTS, INC.
1824 River Street • Jackson, Michigan

Please rush me full details on new MINI-BREAKER today!

NAME _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

NEW LITERATURE—Continued

Identify as **IEN - 0871**

MOTOR BRUSH HOLDERS . . 44-page Catalog 253 presents information on standard units for motors, generators, converters and on replacement units by equipment maker and model number. An inquiry form is included. Archer Engineering Inc., 414-20 N. Budd St., Philadelphia 4, Pa.

Identify as **IEN - 0872**

PACKAGING . . Stencil cutting machines, label gummers, stapling machines, carton printers, other packaging and shipping-room supplies. "Your Handy Helper", 60 pages. Diagraph-Bradley Industries Inc., Box 247-A, Herrin, Ill.

Identify as **IEN - 0873**

PIPE FITTINGS . . Corrosion-resistant fittings for Schedule-5 light-wall stainless pipe have a straight section after each radius to assist installation. This can be expanded into a serrated insert flange. "Speedline", 24 pages. Horace T. Potts Co., D. St. at Erie Ave., Philadelphia 34, Pa.

Identify as **IEN - 0874**

PLASTIC MATERIALS . . Phenolic molding plastics in general-purpose, higher-strength, heat-resistant, electrical and special types. Pictures in 20-page Booklet M-1 show typical product applications. There is a set of 15 design suggestions and a properties chart. Bakelite Co., 30 E. 42nd St., Dept. IEN, New York 17, N. Y.

Identify as **IEN - 0875**

PLASTIC MATERIALS . . Vulcanized fibre, laminated plastics, metal-clad plastic, Teflon products, bonded-mica products, silicone tapes. Catalog GF-54, 12 pages. Continental-Diamond Fibre Co., 2 Chapel St., Newark, Del.

Identify as **IEN - 0876**

POWER PRESSES . . Inclinable open-back presses, 3 to 105 ton in 23 models, in the company's "long slide" design. Details, sizes, ratings in 20-page "Inclinable Presses" bulletin. V & O Press Co., 10 Union Turnpike, Hudson, N. Y.

Identify as **IEN - 0877**

PRESS TOOLS . . Die sets in standard two-pin and four-pin types, many available from stock, have grooved flanges to prevent crushed fingers. List prices, extras, guide pins, in 24-page Catalog 30. Superior Steel Products Corp., 2752-56 S. 19th St., Milwaukee 7, Wis.

Identify as **IEN - 0878**

PRINTING . . Copying machine for letter-size typed, written, drawn or printed material is about the size of a typewriter. It makes one copy in 50 seconds on ordinary paper. Picture steps in 4-page "Verifax" bulletin. Eastman Kodak Co., 341-45 State St., Rochester 4, N. Y.

Identify as **IEN - 0879**

CENTRIFUGAL PUMPS . . Dynamic hydraulic balance features two to four-stage pumps for heads to 650 lb. and capacities from 50 to 850 gpm. Bulletin 237-C, 8 pages. Pennsylvania Pump & Compressor Co., Bushkill Drive, Easton, Pa.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 12865**

You Get **DOUBLE** the WEAR LIFE the STRENGTH

with NEW, fortified

ROALOX MILL JARS

and less than half the contamination . . . All this for but a few cents more per unit cost!

"U. S." New ROALOX MILL JARS are now made of a remarkable ceramic body, closely related to Burundum — the popular, high-density grinding medium. This improved ceramic body wears two to three times more slowly than conventional porcelain, contains substantially *less* silica, reducing silica contamination to a negligible point.

And greatly increased mechanical strength lessens breakage hazard, cutting replacement costs still further.

A suggestion — invest in a New Roalox Mill Jar . . . run it alongside conventional porcelain jars. You'll be amazed at the longer, *effective* grinding life the Roalox Mill Jar provides!

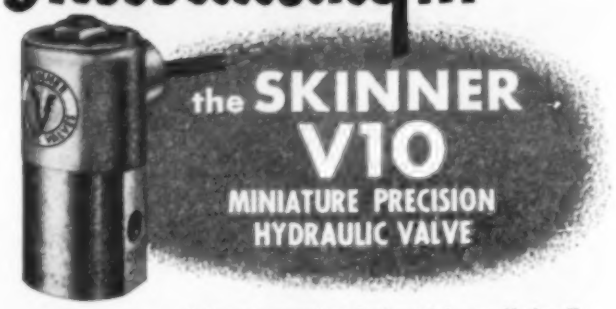
The following 8 sizes are available— ½ pt., ⅓ gal., ½ gal., 1⅓ gal., 2⅓ gal., 3½ gal., 4½ gal. and 6 gal.

267-D **Write for Bulletin 270 for full particulars**

U. S. STONEWARE
Akron 9, Ohio

If you write maker identify as **IEN - 12866**

Introducing...



Skinner's new V10 Series Miniature Hydraulic Valve is an amazingly compact unit, capable of handling pressures up to 1000 P.S.I.

This precision-made valve is ideally fitted for use in the automatic operation of single and double acting hydraulic cylinders, and in pilot control of larger three and four way hydraulic valves.

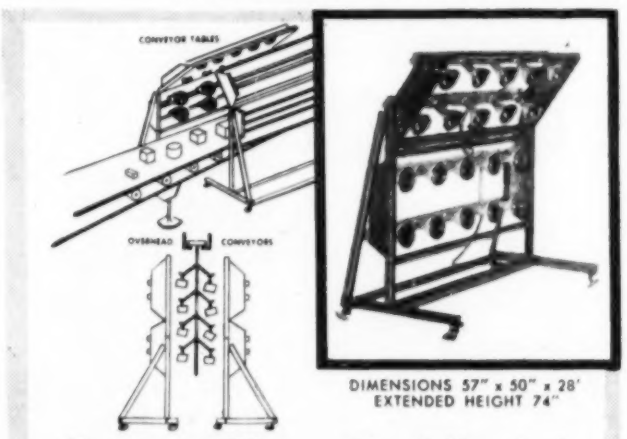
The V10's construction is consistent with the Skinner quality tradition: most internal parts are of stainless steel; the slide mechanism has a precision-ground piston, and a bore honed to extremely close tolerance, thus minimizing leakage.

Specifications: 1/8" NPT threaded ports; effective orifice diameter of 3/32"; available in the full range of AC and DC voltages.

The economical design and unusually small size of the Skinner Miniature Hydraulic V10 valve will enable many manufacturers to install it in places where, heretofore, remote control devices have been considered impractical.

Skinner ELECTRIC VALVE DIV.
THE SKINNER CHUCK COMPANY
110 Edgewood Ave., New Britain, Conn.

If you write maker identify as **IEN - 12867**



Hottest Thing On Wheels!

TRIPPE PORTABLE INDUSTRIAL DRYER

A portable infra-red dryer with a thousand uses. Singly or in multiple it can be wheeled into position anywhere. The panels can be raised, lowered, or angled to throw heat where desired.

Dries paint, pre-heats metal, softens plastic, dehydrates food, dries cores, glues, sand, varnish ad infinitum.

For cheaper and in many cases can replace expensive single purpose fixed ovens. Always ready for another job — an indispensible tool in many modern plants.

Uses 20 R-40 bulbs Wattage 3760 at 17AMPS., 115/230 volts, single phase.

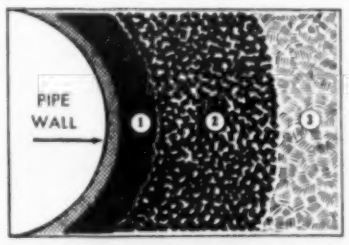
WRITE US FOR CATALOG AND PRICES TODAY.

TRIPPE MFG. CO., 218 N. Jefferson St., Chicago 6, Ill.

If you write maker identify as **IEN - 12868**

GILSULATE®

the revolutionary new Triple-Zone insulation for hot underground pipes. Lowest cost per installed linear foot.



Zone 1: First line of defense against heat loss, corrosion, moisture: a dense semi-plastic core fused on by pipe's own heat.
Zone 2: Second line of defense against heat loss and water: a sintered zone of Gilsulate particles.
Zone 3: A zone of unfused Gilsulate providing final margin of thermal insulation with high load-carrying capacity.

Gilsulate granules fuse into lifetime protection on hot underground pipes; keep them insulated, water-proof, corrosion-proof, root-proof, acid/alkali-proof.

Gilsulate is easy to use:
1. Pour Gilsulate granules out of bag onto pipe.
2. Tamp down and backfill: *the job is insulated!*

Gilsulate has been tested in scores of the country's largest and most important installations. It needs no sleeves or mechanical sheaths. It requires no mixing or special handling. It can't be punctured, doesn't require removal of rocks from backfill. It can't tear or puncture pipe since it contracts and expands with the pipe.

Write for descriptive literature

AMERICAN GILSONITE COMPANY
248 S. Main St., Salt Lake City 1, Utah
or 1145 E. Jersey St., Elizabeth 4, N. J.
Affiliate of Barber Oil Corporation and Standard Oil Company of California

If you write maker identify as IEN - 12869

all-around protection

with REALOCK FENCE

With a Realock Fence you have protection that's all around your grounds . . . all around the clock—an ever-present, ever-vigilant guard against arson, burglary, vandalism and other costly hazards.

Noted for its rugged construction, Realock Fence costs little or nothing for maintenance; can be depended on for long-lasting resistance to the weather.

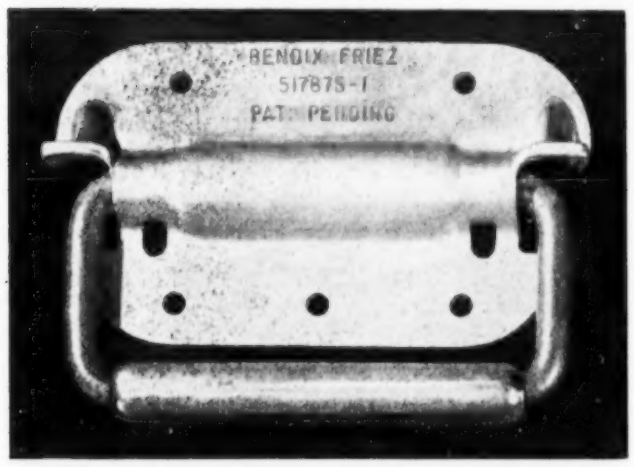
Consult your classified telephone directory for the nearest Sales Office, or write to any of our three Division offices for free estimate or catalogue.

THE COLORADO FUEL AND IRON CORPORATION, Denver and Oakland
WICKWIRE SPENCER STEEL DIVISION, Buffalo

REALOCK FENCE
THE COLORADO FUEL AND IRON CORPORATION
BRANCHES IN ALL KEY CITIES

1943

If you write maker identify as IEN - 12870



A NOISELESS HANDLE!

For manufacturers of portable equipment, carrying cases, parts, boxes . . . or anything that has to be lifted.

What's a large instrument manufacturer doing making handles?

We couldn't seem to find one for our own use that pleased us . . . so we made one ourselves.

Manufacturers who saw it and needed a better handle liked it. It was rust-proof. It recessed. It was rattle-proof. It has a patented "snap-back" principle. It withstands shock and vibration. It's truly rugged.

Since then, we've had a great many inquiries about our handle. They range from an aircraft manufacturer who has ideas about a flexible cargo fuselage . . . to a man who crates turtles for shipping . . . to the man who put rockets together for shipment.

But if you've got something that's got to be lifted by handles . . . chances are this Bendix-Friez handle is for you.

Built of aluminum and stainless steel, it can be riveted or welded to any kind of container or depressed in the sides. Small or large quantity orders. Inquiries answered promptly.

BENDIX FRIEZ

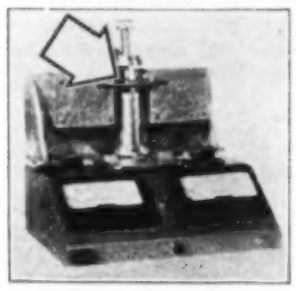
FRIEZ INSTRUMENT
Division of
Bendix Aviation Corporation
1428 Taylor Ave., Balto. 4, Md.

EXPORT SALES
Bendix International Division
204 E.42nd St., New York 17, N.Y. U. S. A.

If you write maker identify as IEN - 12872

TESTING . . Electric instrument to check ball bearing assemblies

Source: BAKER COMPANY
953 Baker Ave., Maplewood, Maine



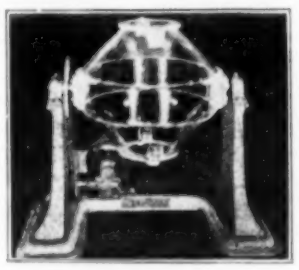
Spindle centers bearing

Torque in starting and running, race roughness, cleanliness, can be checked with this new ball bearing torque tester. The bearing is positioned for drive by an eddy current motor. Then the operator raises the voltage on the motor until it just starts rotation. Reading on one of the two meters at this point provides a comparative measurement of starting torque. Steady running torque is shown with the motor operating on reduced voltage. Amplified signals are generated by race roughness and dirt on a second meter. List price is $800.

If you write maker identify as IEN - 12873

MIXING . . Laboratory dry blender, plastic to permit watching the action

Source: PATTERSON FOUNDRY & MACHINE CO.
50 St. George St., East Liverpool, Ohio



With driving motor

Transparent plastic, in the trunnion mounted body of this new Type L-P blender, permits study of the effect of changing intervals of operation, changes in consistency of the dry component materials, differences in density, effect of size and shape of material particles, adherence of the particles to each other and to the blender walls, particle breakage. Diameter of the body is 12 in. at the center. Batch capacity is 0.31 cu. ft.

If you write maker identify as IEN - 12874

VALVE . . Safety relief design for boiler protection, 1½ to 6 in.

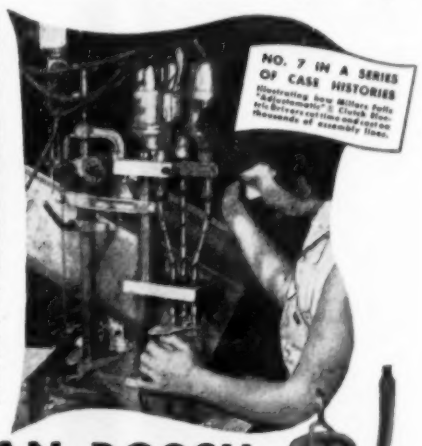
Source: J. E. LONERGAN COMPANY
Race & Second Sts., Philadelphia 6, Pa.

Series 41-W-200

Uni-Line is a new design of pressure operated relief valve employing a free acting self-aligning disc and a disc holder made of forged copper. A floating guide assists in opening and closing action and is adjustable for control. Working parts can be replaced or reconditioned.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12875



THREE-AT-A-TIME. Typical of the Millers Falls installations at American Bosch are the time-saving "triple" shown at right and the ingenious horizontal-and-vertical application above. Both speed production on WWC wipers.

AMERICAN BOSCH

• great name in automotive electrical equipment •

KEEPS PRODUCTION UP, COSTS DOWN

with Millers Falls Power Drivers

When it comes to really rough competition, few businesses are tougher than manufacturing original equipment for the automotive industry.

For many years, American Bosch has been a highly successful supplier of voltage regulators, electric windshield wipers and other automotive products. For many years, too, Millers Falls No. 52 Electric Drivers with the patented "Adjustomatic"® Clutch have been standard equipment at American Bosch. In multiple and single-unit applications, scores of these rugged, vibrationless drivers help keep costs at a minimum, hold torque specifications to rigid standards, and maintain peak production.

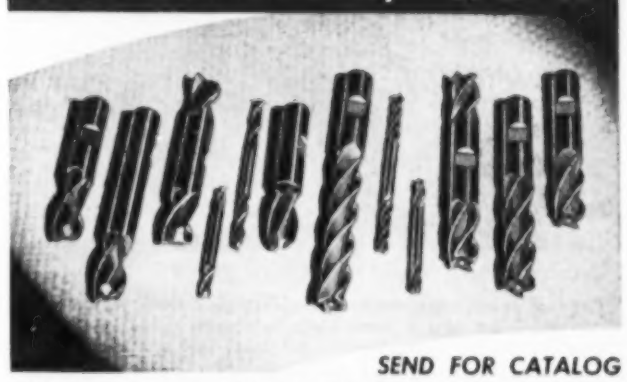
Whatever your driving problems, these powerful, high-speed tools with the super-sensitive "Adjustomatic"® Clutch can give you a big edge on competition. Write for full details — or let us arrange a demonstration.

MILLERS FALLS TOOLS
The Mark of Superiority

MILLERS FALLS COMPANY, Dept. P, Greenfield, Mass.

If you write maker identify as IEN - 12876

NEW.. COMPLETE LINE of END MILLS by GO & GO



SEND FOR CATALOG

NOW you can get off-the-shelf delivery on end mills that GO & GO . . . New styles . . . Additional sizes . . . Long lengths, extra-long lengths, small diameters and 2" dia. shank heavy duty end mills have been added to provide a complete range, as standardized by the Metal Cutting Tool Institute. The famous GO & GO quality is built into these tools. Write for new, convenient catalog covering all standard end mills and milling cutters.

GODDARD & GODDARD COMPANY
MILLING CUTTER ENGINEERS AND MANUFACTURERS
P. O. Box 68, Brightmoor Station
DETROIT 23, MICHIGAN

If you write maker identify as IEN - 12877

"How to revolutionize a rotary drive!"

SEND FOR NEW BOOKLET

WARNER ELECTRIC CLUTCH-BRAKES

. . . for machine designers and production men interested in modernizing machine drives to increase production! New Warner Catalog offers complete specifications and case-histories showing how Electric Clutch-Brakes greatly speed stop-start cycles . . . permit accurate positioning . . . simplify pushbutton or automatic control of machinery. Write for your free copy, Catalog 6115.

WARNER

Warner Electric Brake & Clutch Company
Beloit, Wisconsin

If you write maker identify as IEN - 12878

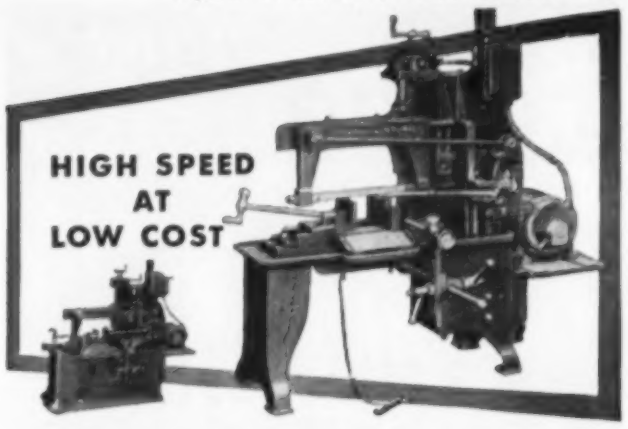
"John Crane" *Plastic Lead Seal is the most economical all-purpose sealing compound for pipe joints, studs and gaskets—*because you use less to get a better seal.* PLS seals for the life of the connection, yet never hardens, allowing joints to be easily broken after years of service.

PLS prevents galling . . . is insoluble in water, gas, steam, many chemicals and all petroleum products. Use it for all services . . . low or high pressure applications up to 6000 psi. . . . temperatures to 500°F. Carries the Underwriters' seal of approval.

Prove to yourself that it takes less PLS to give a perfect seal. Send for a generous free sample. Crane Packing Company, 1815 Cuyler Avenue, Chicago 13, Illinois.

CRANE PACKING COMPANY

If you write maker identify as IEN - 12879



For tool room, stockroom, or maintenance shop, this 6"x 6" capacity hack saw is ideal when you want speed, accuracy, and economical operation at lowest possible investment.

Embodies similar design principles and features of MARVEL heavier duty production saws. Its shaper-link action that provides quick return stroke, and its heavy pressure screw feed are two exclusive MARVEL features that provide FASTER cutting than can be obtained with any other metal saw in its price class.

Single speed, 2-speed, and 4-speed models are available, to suit all types of applications where materials of different hardness and alloy characteristics are to be cut. Cabinet base or open-leg base are optional.

Metal Cutting MARVEL SAWS
Better Machines-Better Blades

ARMSTRONG-BLUM MFG. CO.
"The Hack Saw People"
5700 Bloomingdale Ave. Chicago 39, U.S.A.

If you write maker identify as IEN - 12880

FROM ORIGINAL DESIGN — TO FINAL INSTALLATION . . .

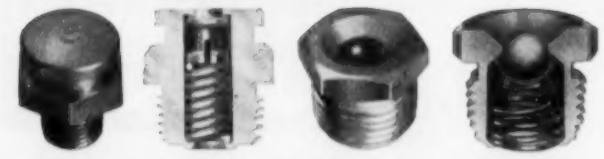
Available over the years to Architects, Industrial Engineers, Jobbers and Contractors at every level of field service, WHEELER FIELD SALES ENGINEERING is constantly at your service . . . ready to aid you in planning the best Lighting Layout for any standard Commercial or Industrial installation. And for special lighting problems, too, you can rely on Wheeler's unique technical assistance to provide the one best answer to your specific requirements.

Wheeler REFLECTORS
Distributed Exclusively Through Electrical Wholesalers
MADE BY SPECIALISTS IN EQUIPMENT SINCE 1881
275 Congress Street Boston 10, Massachusetts

If you write maker identify as IEN - 12881

There's All the Difference in the World in Grease Fittings!

Specify UNIVERSAL'S
New Giant Button Head or Flush Type Fittings



Streamlined One-Piece Design | Giant Button-Head Fitting, Plug Check | Streamlined One-piece Design | Giant Flush-Type Fitting, Ball Check

Note the practically indestructible one-piece construction, streamline design, positive seating of ball or plug check. Special spring design assures maximum clearance for free passage of grease. For a really modern, improved grease fitting, specify UNIVERSAL. Application engineering available promptly on request. Write now for complete information.

UNIVERSAL LUBRICATING SYSTEMS, INC.
785 ALLEGHENY AVE., OAKMONT, PA.

NEW LITERATURE—Continued

Identify as IEN - 0880

PYROMETER SUPPLIES . . Thermocouples, radiation detectors, resistance bulbs, protection tubes, wells. Bulletin TC, 44 pages, also includes information on how to make a thermocouple, how to check one, calibration and conversion tables. Wheelco Instruments Div., Barber-Colman Co., 845-49 W. Harrison St., Chicago 7, Ill.

Identify as IEN - 0881

SAWING . . Power hacksaw machines, some with automatic bar feed conveyor, 7 by 7 in. and 11 by 11 in. capacity. Design features in 12-page Bulletin HC-50. Peerless Machine Co., 1602 Junction Ave., Racine, Wis.

Identify as IEN - 0882

SCREW DRIVING . . Hand tools and power bits to drive Phillips, Frearson, slotted, clutch-head, socket head, hex head screws, also magnetic screw holder designs, all by size with list prices in 56-page Catalog 21. Apex Machine & Tool Co., 1023-27 S. Patterson Blvd., Dayton 2, Ohio

Identify as IEN - 0883

SCREW MACHINE PARTS . . Simple turned products to complex assemblies including electronic equipment is the scope of manufacturing facilities presented by pictures in 16-page bulletin, "Precision". Z & W Machine Products Inc., 5102 St. Clair Ave., Dept. B-12, Cleveland 3, Ohio

Identify as IEN - 0884

SEWING . . Lockstitch machine for production sewing on clothing from lingerie to coveralls. What it will do, construction, attachments in 8-page Bulletin 258. Union Special Machine Co., 402 N. Franklin St., Chicago 10, Ill.

Identify as IEN - 0885

POWER SHOVELS . . Color picture book shows applications and construction points on electric machines to 10 cu. yd. with Magnetorque drive. Bulletin X-139, 20 pages. Harnischeger Corp., 4402 W. National Ave., Milwaukee 46, Wis.

Identify as IEN - 0886

POWER SHOVEL . . Tractor-mounted unit, 1 cu. yd., four-wheel drive with big pneumatic tires for traction in sand, mud, snow. Bulletin, "Model HR Payloader", 16 pages. Frank G. Hough Co., 841 Seventh St., Libertyville, Ill.

Identify as IEN - 0887

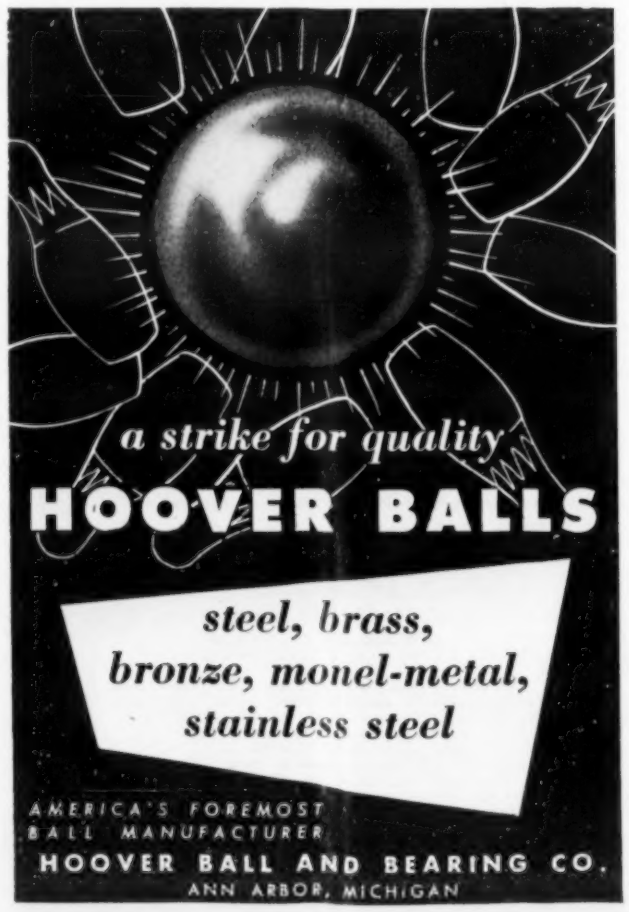
SILICONES . . Condensed reference information on silicone fluids, release agents, greases, water repellents, protective finishes, insulating varnishes, molding materials, silicone rubber, in 4-page 1953-54 "Reference Guide", Form 1-104. Dow Corning Corp., Box 592-A, Midland, Mich.

Identify as IEN - 0888

STAMPINGS . . Alphabetical list of stamping manufacturers gives information on each as to maximum size of work handled, services offered, work specialized in, and products made. 1953 Blue Book, letterhead request, 60 pages. Pressed Metal Institute, 2858-62 E. 130th St., Cleveland 20, Ohio

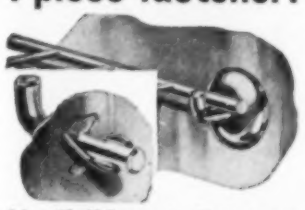
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12882

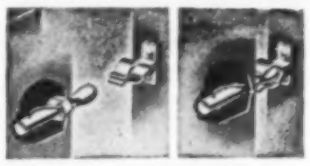


If you write maker identify as IEN - 12883

Have you a similar use for this 1-piece fastener?

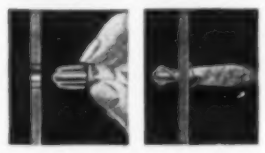


It's a Shelf Support...For ranges or refrigerators—in plastic and metal. Leading appliance makers have achieved substantial installation savings through it.



It's a Cabinet Door Strike...Simple to install; eliminates welding and cuts assembly cost. Any head can be designed without affecting fastening principle.

It's a Lifter Knob or Dashboard Plug...Plastic Spring-Lock heads are molded around steel inserts, giving strength at point of load or impact. Any shape head can be molded in any color.



It's a Blind Rivet...Or a removable fastener. It locks and unlocks with a 90° clockwise rotation. No mating parts such as nuts or receptacles.

What's Your Application?

...Tell us how you can use Spring-Lock Fasteners in your products. We'll be glad to work out the details with you.

Send for more data and *Free Samples* today.

Simmons Fasteners
QUICK-LOCK • SPRING-LOCK
ROTO-LOCK

SIMMONS FASTENER CORP., 1758 North Broadway, Albany 1, N. Y.

If you write maker identify as IEN - 12884

According to our customers, they continue buying Ledeen Cylinders because, "You people knock yourselves out to give us good service, and your cylinders perform better and last longer."

At Ledeen we perform no miracles, but we do give you quick delivery, good service, and, above all, a good sturdy, reliable cylinder.

Write for Bulletin 500.

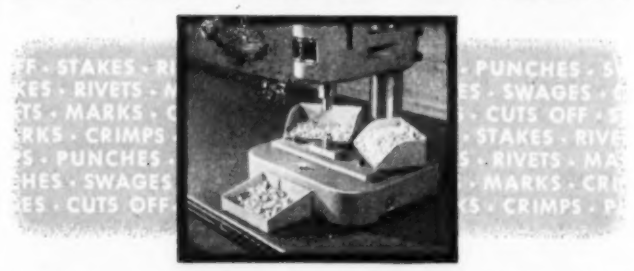
Ledeen Cylinders are good cylinders.

VALVES • CYLINDERS
VALVE ACTUATORS
AIR-HYDRAULIC
PUMPS & BOOSTERS

Ledeen Mfg. Co.
1602 San Pedro St.
Los Angeles 15, Cal.

If you write maker identify as IEN - 12885

ELECTROPUNCH stakes terminals to insulators TWICE AS FAST!



In this strict quality control operation at Cambridge Thermionic Corporation, ELECTROPUNCH—the all-electric impact hammer—has slashed production time *and unit cost* in half! Main reason for the speed-up: ELECTROPUNCH delivers instant, controlled impacts at a faster rate than the equipment previously used, *and* without requiring time to build up pressure! ELECTROPUNCH also *reduced spoilage* resulting from staking these ceramic insulators at inadequate or excessive pressures.

Delivers controlled impacts up to 10,000 lbs. — up to 125 blows per minute! Economical to buy, operate and maintain — adaptable to a wide range of applications. Operable from 110 V., A.C. outlets.

Write, or phone Bigelow 4-6370 for complete information on Black & Webster tools.

BLACK & WEBSTER, INC.
Dept. 17, 445 Watertown St., Newton 58, Mass.
SOLENOID-OPERATED PRODUCTION TOOLS

If you write maker identify as IEN - 12886

new 44 Ways Better

A great new line of Toledos! *44 new features* are now added to the traditional accuracy and dependability of Toledo Scales. Complete range of types and capacities. Get your scale information up-to-date . . . write today for the new condensed catalog No. 2001. Toledo Scale Company, Toledo 1, Ohio.

TOLEDO®
HEADQUARTERS FOR SCALES

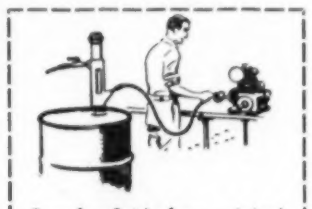
Model 2181 —New version of the world's most widely used portable dial scale.

If you write maker identify as IEN - 12887

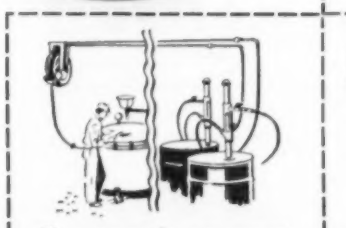
NEW DRUM PUMP DISPENSES FLUIDS *FASTER*

Get this NEW IDEA BOOK!

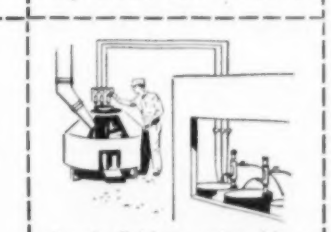
● This illustrated, quick-reading, 24-page book tells you how other users are finding unusual applications for the Fast-Flo pump . . . where and how you can save time and cut costs pumping fluids from original drums with Graco's amazing Fast-Flo Drum Pump. If your plant deals with fluids, it will pay you to send for your own free copy now!



Transfer fluids from original drums in measured amounts to production lines or stations.



Clear up work area congestion with Fast-Flo pump and overhead reel system.



Supply fluids to point-of-use, from drums located at a distance from the working area.

Look around your plant—if you see drums, you should save money with Fast-Flo

If you handle fluids or semi-fluids from drums, this low-cost Fast-Flo drum pump can help you do a faster, cheaper, cleaner job — whether it's transfer, supply, or a simple mixing operation. Send now for your free copy of the Fast-Flo idea book.

GRACO
***Fast-Flo* DRUM PUMP**
GRAY COMPANY, INC.
ENGINEERS AND MANUFACTURERS
111 Graco Square • Minneapolis 13, Minnesota

Regional Offices: New York, Philadelphia, Detroit, Atlanta, Chicago, San Francisco

If you write maker identify as IEN - 12889

HEATING . . Electric element for immersion in corrosive solutions

Source: GLO-QUARTZ ELECTRIC HEATER CO.
37932-36 Elm St., Willoughby, Ohio

$60 to $173

Nickel alloy wire is embedded in fused quartz and assembled unit is enclosed in a square perforated guard made of non-corroding metal in this new Glo-Quartz electric heating element. Twelve ratings are from 1½ to 12 kw. Immersible length is 18 to 64 inches. Operation can be specified on 110, 220 or 440 volt ac. or dc. The outside sheath measures 3½ by 3½ inches. Connections are made at the head end which is available in two types for given applications.

If you write maker identify as IEN - 12890

MAGNIFYING . . Illuminated fixture with 4½ in. lens and Circline lamp

Source: STRAT-O-SEAL MFG. CO.
3037-41 W. Fullerton Ave., Chicago 47, Ill.

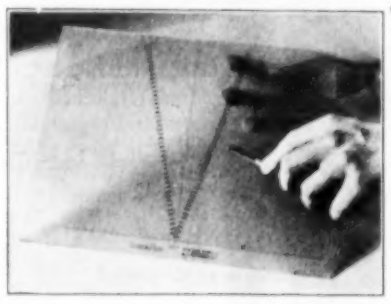
Strain free vision

Imported lens, measuring 4½ in. in diameter and providing a 9-in. focal length, is mounted in the center of the circular frame of this new De-Luxe Stratolite. Inside the housing, surrounding the lens, is an 8-in. Circline fluorescent lamp. Housing finish is black crackle. The housing is supported on a sectional pivoted arm mounted on a triangular base. List price is about $40.

If you write maker identify as IEN - 12891

GAGE . . Comparator chart, engraved lines on translucent plastic

Source: OPTICAL GAGING PRODUCTS INC.
24-28 Forbes St., Rochester 11, N. Y.



Fine black lines

Perma-Line trade names new dimensionally stable Vinylite translucent plastic charts with engraved dimension lines. The chart is made as an overscreen for use on optical comparators and is 0.05 in. in thickness. Rectangular shapes are available to 20 by 44 inches. Circular charts can be made to 30 in. in diameter. Specials can be processed.

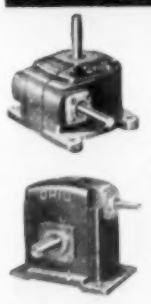
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12892

POWER TRANSMISSION

Illustrated above is a cut-away view of Ohio Gear's D drive, showing engineering and sturdiness of the reduction unit.

TO YOUR SPECIFICATIONS OR "OFF THE SHELF"



OHIO
GEARS • REDUCERS

Ohio Gear's growing reputation has been built with the concern and future of your product in mind. Ohio Gear is constantly adapting new methods . . . adding new and modern equipment for gear and reducer manufacturing . . . all this, to improve and insure your product for longer life and trouble-free efficiency.

Ohio Gear engineers are qualified to make expert recommendations . . . write us or see our nearest distributor.

THE OHIO GEAR CO., 1345 EAST 179th STREET • CLEVELAND 10, OHIO

If you write maker identify as IEN - 12893

PROBLEM: To get accurate positioning from female centers.

ANSWER: Lap the centers.

Ex-Cell-O Center Lapping Machines correct inaccuracies of rough centers, assuring GREATER PRECISION from your present equipment. Center lapping reduces manufacturing costs by minimizing waste from grinding rejections; decreases assembly time because of closer tolerances; All the facts are in Bulletin No. 40271. Write Ex-Cell-O for a copy today.

53-29

CENTER LAPPING MACHINES BY EX-CELL-O CORPORATION
DETROIT 32, MICHIGAN

If you write maker identify as IEN - 12894

Quick cure

for a production line headache

A NEW AIR SCREWDRIVER THAT'S REALLY QUIET

Chicago Pneumatic's new CP-3008, the really quiet air screwdriver, has supersonic exhaust . . . changes sound waves to a frequency which approaches the limit of human hearing. The rugged CP-3008 weighs only 1 lb., 14 oz. . . . has directional exhaust, built-in speed control and a simple, adjustable clutch. Has a rated range of #4, #6 and #8 screws — in some cases can be used on #2's and #10's. Write for Bulletin SP-3096. *Chicago Pneumatic Tool Company, 8 East 44th Street, New York 17, N. Y.*

Chicago Pneumatic

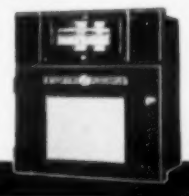
PNEUMATIC TOOLS • AIR COMPRESSORS • ELECTRIC TOOLS • DIESEL ENGINES
ROCK DRILLS • HYDRAULIC TOOLS • VACUUM PUMPS • AVIATION ACCESSORIES

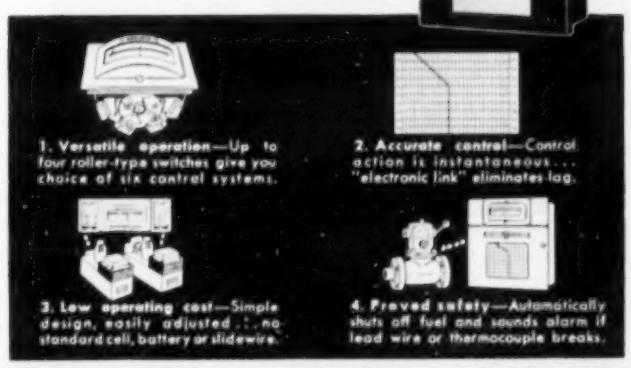
If you write maker identify as IEN - 12895

BARBER COLMAN

Wheelco Instruments

Four reasons why Capacilog is industry's best instrument buy!





1. Versatile operation—Up to four roller-type switches give you choice of six control systems.

2. Accurate control—Control action is instantaneous . . . "electronic link" eliminates lag.

3. Low operating cost—Simple design, easily adjusted . . . no standard cell, battery or slidewire.

4. Proved safety—Automatically shuts off fuel and sounds alarm if lead wire or thermocouple breaks.

Comparing performance and cost—for indication, control and permanent record of process variable—the Capacilog gives you more for your instrument dollar! With unique, plug-in assemblies, simple and easy to adjust . . . without complicated parts to constantly lubricate, clean and replace . . . with economical periodic service from Wheelco's nation-wide factory-trained field force, the Capacilog reduces costs many ways. Add to this its versatile control system, accurate performance, proved safety features, and rugged durability and you see why Capacilog is the preferred instrument of more than 10,000 users. Write for Bulletin C2-2.

Factory-trained field engineers in all principal cities

WHEELCO INSTRUMENTS DIVISION • BARBER-COLMAN COMPANY
Dept. K, 1516 Rock St., Rockford, Illinois

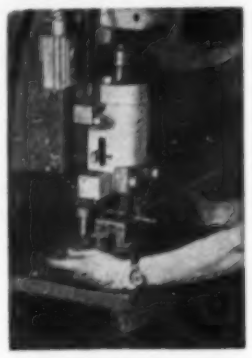
If you write maker identify as IEN - 12896

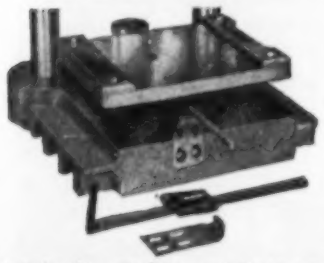
Adjustable Automatic Stock

FEED STOP for DIES

Dahlstrom Light Duty

AUTOSTOP





No drill jig...
No slotting...
No milling...

$1.75

Tested and improved through the years, the Dahlstrom Autostop will save hours of your high priced labor. Adjustable to work with blanking, progressive and compound dies. Mounts on stripper plate in 15 minutes. Handles sheet steel up to 1/16" x 6" or equivalent weight.

TO INSTALL: Just drill one 7/32-inch hole, then drill and tap four mounting holes per directions. That's all there is to it!

Trial order $1.75 each; lots of 12 $1.50 each. State whether for use on compound or progressive dies. *Write for free pamphlet.*

By the makers of the DAHLSTROM TAP GUIDE

Branch MANUFACTURING COMPANY
NORTH BRANCH • MINNESOTA

If you write maker identify as IEN - 12897

BORSUDS HEAVY-DUTY BORAX-TYPE HAND CLEANER

BORSUDS' grime-chasing agent, borax, is completely soluble — will not clog drains. Combining borax with the finest medium and low titer natural toilet soaps, Dolge has developed a product sure to find favor with factory and office personnel alike. Agreeable to use, gentle to the skin, quick-acting against the most ingrained grime. BORSUDS comes in convenient 5-lb. packages, or in bulk for even greater economy.

Your Dolge Service Man will gladly demonstrate BORSUDS under your own shop or office conditions.

FOR FREE SANITARY SURVEY of your premises consult your DOLGE SERVICE MAN

dependable DOLGE
WESTPORT, CONNECTICUT

If you write maker identify as IEN - 12898

NEW
ELWELL-PARKER
"Cargo Scout"
Fork Truck

FAST, COMPACT—"Cargo Scout" is ideal for speedy service in congested areas, narrow aisles, inside box cars, road trucks, etc.

LOW OPERATING COST—electric power costs only pennies per day. No fumes, or vulnerable clutch.

360° STEERING plus 57" turning radius gives greater maneuverability.

EASIER MAINTENANCE—all parts instantly accessible for faster lubrication or inspection.

END CONTROL—better vision, safer, easier to get on and off.

TELESCOPING UPRIGHTS. 100" of lift with only 68" overall height, with uprights retracted, and full 50" of free lift.

WRITE FOR FULL DATA on the brand new, 2000 lb. capacity "Cargo Scout". The Elwell-Parker Electric Co., 4065 St. Clair Avenue, Cleveland 3, Ohio.

NEW LITERATURE—Continued

Identify as IEN - 0889

STRAPPING . . Suggestions on using steel strapping to assemble products into unit pallet loads for handling and shipping. Folder, "6 Basic Ways", 12 pages. Signode Steel Strapping Co., 2630 N. Western Ave., Chicago 47, Ill.

Identify as IEN - 0890

SWITCHES . . Lever and push-key telephone-type switches in single, multiple, special assemblies; also jacks and plugs, dials, accessories and tools. Catalog 4018-D, copyright 1952 but recently revised, 32 pages. Automatic Electric Co., 1031-35 W. Van Buren St., Chicago 7, Ill.

Identify as IEN - 0891

SWITCH . . Small snap-action hermetically-sealed unit has silver contacts, weighs .04 pound. Contact arrangements and data in 4-page bulletin, "Haydon Switch". Haydon Switch Co., 232 N. Elm St., Dept. IEN, Waterbury 4, Conn.

Identify as IEN - 0892

TABLET MAKING . . Presses in single-punch and rotary designs to make products from aspirin tablets to carbide tool tips. Catalog 801, 24 pages. F. J. Stokes Machine Co., 5956 Tabor Road, Philadelphia 20, Pa.

Identify as IEN - 0893

GAS TESTING . . Laboratory-type analysis equipment for carbon dioxide, oxygen, carbon monoxide, hydrogen, methane, nitrogen, using absorption and combustion methods. Apparatus and list prices in 48-page Catalog 81. Burrell Corp., 2221-25 Fifth Ave., Pittsburgh 19, Pa.

Identify as IEN - 0894

PERFORMANCE TESTING . . Cabinets to test equipment under conditions of 20 to 95 per cent humidity, altitudes to 500,000 ft., temperatures from minus 150 to plus 400 deg. F. Bulletin 108-102, 4 pages. Hudson Bay Div., Refrigeration Systems Inc., 644 W. Washington, Chicago 6, Ill.

Identify as IEN - 0895

SHOCK TESTING . . Machine tests equipment and components for shock to 210g peak acceleration. It drops them from a predetermined height into sand or lead. Rating is 20 pounds. Bulletin 535, 4 pages. Barry Corp., 838 Pleasant St., Watertown 72, Mass.

Identify as IEN - 0896

ULTRASONIC TESTING . . Non-destructive equipment to detect, locate and record flaws in work pieces and materials on an automatic production basis is engineered to meet your requirements. Details in 8-page Simac Bulletin 50-110. Sperry Products Inc., 1002 Shelter Rock Road, Danbury, Conn.

Identify as IEN - 0897

THERMOMETERS . . Dial-type remote-bulb instruments in 94 ranges from minus 300 to plus 1,000 deg. F. Chart of these ranges and mechanism details in 16-page Bulletin 467. Foxboro Co., 42 Neponset Ave., Foxboro, Mass.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12899

30,000TH AUTOMATIC TRANSPORTER COMES OFF LINE

John A. Baldinger, General Manager of Automatic and H. J. Framhein, Chief Engineer in charge of Transporters, see 30,000th Transporter come off line.

American Industry uses more Automatic TRANSPORTERS than any other operator-led electric truck. And, no wonder, for...in addition to trouble-free, superior performance and lower maintenance costs...to our knowledge...no Automatic TRANSPORTER has ever worn out!

For full details write:

Automatic
109 W. 87th St., Dept. W-3, Chicago 20, Ill.
World's Largest Exclusive Builders of ELECTRIC-DRIVEN INDUSTRIAL TRUCKS

If you write maker identify as IEN - 12900

Complete Line of HEAD BLOCKS
WINCHES
COUNTERWEIGHT SYSTEMS

Loads ranging from a few pounds to 40 tons and more must be hoisted and moved quickly and safely on the theatre stage. The complete line of head blocks, hand and motorized winches and counterweight systems — all standard catalog items — which J. R. Clancy, Inc. has supplied for the stage for 76 years is available to meet the many similar requirements of modern industry.

Send for Catalog

Theatrical Equipment Division

J. R. CLANCY INC.
1020 W. BELDEN AVE., SYRACUSE 3, N. Y.

If you write maker identify as IEN - 12901

IF YOU EMPLOY CARPENTERS AND USE NAILS — YOU CAN PROBABLY DO IT FASTER, BETTER, CHEAPER WITH A NAILING MACHINE . . .

USE AN fmc ALL PURPOSE INDUSTRIAL NAILER

THIS MECHANICAL NAILING MACHINE HANDLES EVERY PRODUCTION ITEM FROM BED FRAMES TO PALLETS AND GRAIN DOORS

You can cut nailing costs with mass production techniques. Modern nailing machine design eliminates the need for large production runs. Versatile operation permits even a small run to be handled with pay-for-itself economy. We can adapt a nailing machine to suit your product.

A TIME-SAVING DEVICE THAT WILL PAY DIVIDENDS THRU GREATER PRODUCTION

Driving multiple nails per stroke in a variety of nailing patterns outclasses any hammer-in-hand production. Uniform quality eliminates rejects — increases output.

HOW THE MACHINE IS MADE

Welded steel construction provides lasting hard use. Year after year performance with minimum maintenance.

SIZES AVAILABLE

Standard models select and drive up to 24 nails per stroke. Available in 48", 66" or 80" widths. Special custom adaptations are available on order.

HERE'S WHERE IT IS NOW APPLIED

Successfully adapted to nail pallets, shipping crates, redwood outdoor lawn furniture, cooling tower panels, bed spring frames, grain doors and many other wood products.

Available FROM fmc FOOD MACHINERY AND CHEMICAL CORPORATION

TRADE MARK NM753

FOOD MACHINERY AND CHEMICAL CORPORATION
PACKING EQUIPMENT DIVISION, RIVERSIDE, CALIFORNIA

WRITE FOR FREE LITERATURE!

If you write maker identify as **IEN - 12903**

32 Pages of Helpful Information on Dust Recovery Systems

If you are now using dust or fly ash recovery equipment in your plant—or are planning installation of such equipment now or later—you will find this 32 page Multiclone booklet full of helpful information. Illustrations and diagrams outline basic principles of dust recovery and how to utilize them for maximum efficiency . . . how to simplify your installations . . . how to conserve valuable plant space . . . how to get high recovery over a wide range of particle sizes, etc. *A copy of this booklet should be in your files for reference and assistance in dust recovery applications. A free copy will gladly be sent you on request. Write today while supplies are adequate*

WESTERN Precipitation CORPORATION

ENGINEERS, DESIGNERS & MANUFACTURERS OF EQUIPMENT FOR COLLECTION OF SUSPENDED MATERIALS FROM GASES & LIQUIDS

Main Offices: 1011 WEST NINTH STREET, LOS ANGELES 15, CALIFORNIA
CHRYSLER BLDG., NEW YORK 17 • 1 N. La SALLE ST. BLDG., CHICAGO 2
1429 PEACHTREE ST. N.E., ATLANTA 5 • HOBART BLDG., SAN FRANCISCO 4
PRECIPITATION CO. OF CANADA, LTD., DOMINION SQ. BLDG., MONTREAL

If you write maker identify as **IEN - 12904**

If you can't afford it, HILLS-McCANNA *Saunders Patent* **diaphragm valves will put an end to it!**

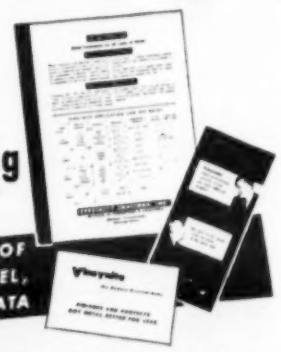
WRITE FOR LITERATURE

HILLS-McCANNA *Saunders Patent* **diaphragm valves**

HILLS-McCANNA COMPANY, 2347 Nelson Ave., Chicago 18, Ill.

If you write maker identify as **IEN - 12905**

Get this *new* FREE kit on Metal-Finishing . . . Maintenance



INCLUDES ACTUAL SAMPLE OF VINSYNITE ON STEEL PANEL, PLUS APPLICATION AND USE DATA

Vinsynite is a metal pretreatment which greatly increases adherance of top finishes, resists rust and corrosion. It can be applied to *any* metal by simple brush, spray, dip or roller methods, needs no special equipment or chemical control. If you finish metal products or maintain metal structures, you should have this information.

SEND THE COUPON

SPECIALTY COATINGS, INC., Division of Thompson and Company
1000 Allegheny Ave., Oakmont, Pa.

Send us the new information kit about Vinsynite.

NAME _____
POSITION _____
COMPANY _____
ADDRESS _____

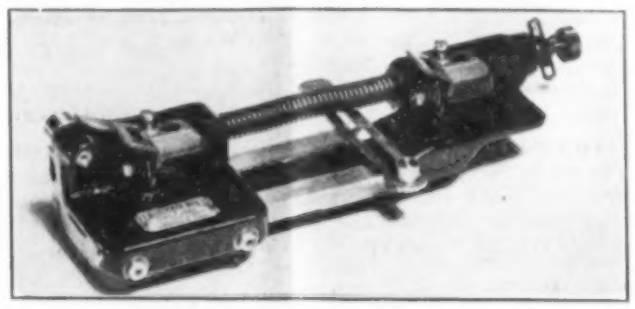
Vinsynite

COMBINES PROTECTION AND ECONOMY

If you write maker identify as **IEN - 12906**

PRESS TOOLS . . Strip stock feeder is operated by cam on punch holder

Source: H. E. DICKERMAN MFG. CO.
319-23 Albany St., Springfield 4, Mass.



Catalog Sheet K presents specifications

Model K is a new design of the company's Hitch Feed, previously described IEN-11713-50. It provides a maximum stroke of 2½ in., or longer when the press stroke is longer. It takes stock to 0.031 in. in thickness. Maximum width capacity is 5 in. in gages of 0.003 in. or a little more. Feed length can be set by turning a knurled screw at the rear of the semi-steel main frame. The slide that mounts on the frame and carries the cam roller also is made of semi-steel.

Downward movement of the press ram retracts the slide against the action of a spring. Pivoted carbide faced gripper plates release the strip on the slide and hold it on the frame against reverse movement while the slide is retracting. The plate then releases on the frame and grips on the slide, when the press ram retracts, and the spring moves slide and stock forward ready for the next stroke of the press.

If you write maker identify as **IEN - 12907**

TRUCK . . Lever lift assembly for close quarters, has traction motor

Source: WESTERN GEAR WORKS
P. O. Box 182-A, Lynwood, Calif.

Puts the load on wheels

Loads to 2 ton can be lifted with this new truck by tipping it upward, inserting its foot lift under the load and then pressing it downward, with the aid of the handle as a lever if necessary. Then a switch on the handle can be operated to close a circuit through an extension cord to a geared head motor connecting to traction wheels at the front of the jack.

The motor provides for movement in either direction. The truck can be entered under a load in a limited space. It is available with a flat load step hinged at the front of the assembly or with a finger attachment, the latter for loads that are not crated.

Tug-Bar is the trade name. Operation can be specified on 110-volt ac. or on 24-volt dc. Assembly weight is 110 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 12908**

AIR-POWERED ROTARY WORK FEEDER *Doubles* **DRILL PRESS OUTPUT**

Feeds parts quickly, safely, to and from drill press spindles, press rams, etc. Can be electrically interlocked with spindle movement. Operator can use both hands to load and unload safely away from tool. Three models: 10", 22", and 26" diameter table tops. Can be provided to position any number of stations up to 36.

Write for Bulletin T-85. Free on request. Address Dept. IEN 1153

822A

PUSHING PULLING MOLDING

The Bellows Co.

AKRON 9, OHIO

If you write maker identify as **IEN - 12909**

NEW better way of detecting gas or vapor flow

Bulletin describes operating principle of Fenwal DETECT-A-FLO

If detection of change of air flow, gas, or vapor past a given point is important to you, then you will want to know more about the new Fenwal DETECT-A-FLO unit.

The device contains a constant heat source and operates on a heat transfer principle. The electrical contacts of a basic Fenwal THERMOSWITCH® element are actuated whenever there is a change in the rate of flow beyond the set point. Easy to install, ambient compensated, hermetically sealed, compact, resistant to vibration and corrosion — has no exposed moving parts.

The newly developed Fenwal DETECT-A-FLO will bring improved dependability in applications where detection or control of flow is vital. Can be used in tandem to meter flow as well. Comprehensive engineering data is ready now. For more information, send now for your free copy of bulletin. Write **Fenwal Incorporated, 711 Pleasant Street, Ashland, Mass.**

Fenwal DETECT-A-FLO

Electric Temperature Control and Detection Devices

If you write maker identify as **IEN - 12910**

REMEMBER, MERLIN, WAND WAVING IS STRICTLY HOCUS POCUS!

No, not even a magician can make good on the fantastic claims attributed to cheaper solders, *the mystery alloys with a secret ingredient*, that are supposed to equal the performance of higher tin content solders. What really counts is the quality of the soldered connection . . . something you can always maintain with Kester Solder!

FREE! *Kester Technical Manual, "SOLDER and Soldering Technique." Write today for your copy!*

KESTER

SOLDER COMPANY

4211 Wrightwood Avenue • Chicago 39, Illinois
Newark 5, New Jersey • Brantford, Canada

If you write maker identify as **IEN - 12911**

UNEQUALLED FOR DELICATE HIGH PRECISION WORK ON HARD, BRITTLE MATERIALS

DRILLS THIN SECTIONS

PRODUCES MATTE FINISHES

REMOVES SURFACE COATINGS

ETCHES, NOTCHES, SCORES

THE INDUSTRIAL "*AIRBRASIVE*" UNIT

A fine, high-velocity stream of gas-propelled abrasive does the work. The action is fast, cool and shockless and can be held to extremely close tolerances. The "Airbrasive" Unit works equally well on flat, cylindrical or round surfaces. Since there is no contact of a tool with the work, irregular surface contours will not impair the accuracy of the Unit. The Unit will cut lines as fine as .008".

We'll be glad to test the Unit on your samples. Write today.

For complete information write for Bulletin 5307

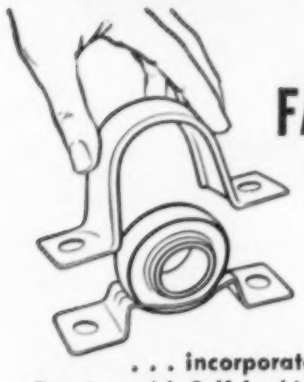
THE S. S. White INDUSTRIAL DIVISION
DENTAL MFG. CO.

Dept. NA, 10 East 40th St.
NEW YORK 16, N. Y.

Western District Office • Times Building, Long Beach, California

If you write maker identify as IEN - 12912

NEW! LOW-COST PILLOW BLOCK



FAFNIR Type PB

"Economy Package"

. . . incorporates Fafnir Wide Inner Ring Bearing with Self-Locking Collar.

The new Type PB Series Pillow Block is developed to fill a specific need for a high-quality, *precision* ball bearing unit *at lowest possible cost*. It is designed for *light duty* applications. Send for descriptive bulletin. The Fafnir Bearing Company, New Britain, Connecticut.

OUTSTANDING FEATURES INCLUDE

- Two-piece, separable pressed steel housing.
- Self-alignment at assembly
- Compact . . . lightweight
- Pre-lubricated bearing . . . Plya-Seal protected
- For shaft sizes up to and including 1¼".

FAFNIR BALL BEARINGS Most Complete Line in America

If you write maker identify as IEN - 12913

For Heat Treating Small Parts

HUPPERT Model 22 DeLuxe FURNACE

Acurately Controlled

$110.00 Complete with Pyrometer . .

$130.00 Same Model—All Stainless Steel Construction

Here's a compact, durable furnace that is ideal for tool and die shops and small laboratories. Any desired temperature within the range of 350° to 1800° F. is controlled by an accurate, built-in Huppert temperature controller. All-steel construction—multi-insulation—sturdy Kanthal elements—counter-weighted doors—two removable porcelain trays. Current consumption is 1600 Watts—110 Volts A.C. I.D. 4½" x 3⅝" x 9".

(Also available in stainless steel at slight additional cost.)

		I.D.	Temp. Range	Wattage	All Steel Price
Model No.	2 DL	4¼" x 3⅝" x 4½"	325° — 1800° F.	900	$ 80.00
Model No.	4 DL	4⅝" x 3¾" x 6"	250° — 1800° F.	1600	110.00
Model No.	5 DL	4⅝" x 3¾" x 9"	300° — 1900° F.	1750	172.00
Model No.	9 DL	6" x 6" x 6"	300° — 1900° F.	2000	200.00
Model No.	669 DL	6" x 6" x 9"	300° — 1900° F.	2500	248.00
Model No.	10 DL	8" x 4" x 6"	300° — 1900° F.	2000	215.00

(Also available in stainless steel at slight additional cost.)

K. H. HUPPERT CO.

6856 Cottage Grove Avenue, Chicago 37, Illinois

Manufacturers of Electric Furnaces and Ovens

If you write maker identify as IEN - 12914

Enjoy THE ADVANTAGES OF HAVING TIME RECORDED

ACCURATELY AUTOMATICALLY EFFICIENTLY

THE NEW *Simplex* TIME RECORDER

This new Simplex Time Recorder figures payrolls easier, 50% faster—cuts payroll costs in half.

Vertical or horizontal print . . . Two color registration . . . Trigger-touch print . . . Direct subtraction . . . One-minute positioning . . . Attractive, indestructible case.

SIMPLEX TIME RECORDER CO., Gardner, Mass., Dept. I-11

Please give us more information on:

☐ Cost Recorder ☐ Time Cards ☐ Electric Time Stamp
☐ Watchman's Clock ☐ Time Card Files ☐ Time Card Racks

Firm.....

Name.....

Street & No.....

City..... State.....

NEW LITERATURE—Concluded

Identify as IEN - 0898

TRANSFORMERS . . Special units designed and manufactured to meet requirements, also coils, reactors, chokes, magnetic amplifiers, motor control. Bulletin, 12 pages. Ballastran Corp., 1703 N. Calhoun St., Fort Wayne 7, Ind.

Identify as IEN - 0899

TRANSFORMERS . . Dry-type electric transformers from 1 to 10 kva. for indoor or outdoor service. Catalog 353, 8 pages, gives list prices and dimensions on single-phase units, autotransformers, isolation and boosting units. Hindle Transformer Co., 853 Woods Church Road, Flemington, N. J.

Identify as IEN - 0900

TRAPS . . Steam traps in sizes from ¼ to 2 in. and for vacuum to 300-lb. pressure. Bulletin 853, 12 pages, shows pipe connection drawings, gives tables and instructions on how to select size by type of application. W. H. Nicholson & Co., 10-14 Oregon St., Wilkes-Barre, Pa.

Identify as IEN - 0901

STEEL TUBE . . Welded single-wall in ⅛ to ⅝-in. sizes, brazed double-wall, ⅛ to $\frac{5}{16}$-in. sizes, to use in product manufacture. Twelve-page Bulletin 1120 gives information on bending methods and radii, swaging, beading, flaring, cutting, soldering, finishes. Rochester Products Div., General Motors, 1002 Lexington Ave., Rochester 3, N. Y.

Identify as IEN - 0902

PLUG VALVES . . Lubricated design for pressures from 175 to 800 lb. are covered by 32-page Catalog 180 as to sizes, dimensions, list prices, lubricant recommendations, remote operators. Ohio Injector Co., 180 Ohio St., Wadsworth, Ohio

Identify as IEN - 0903

VENT VALVE . . Float-operated unit releases air accumulations, admits air to break vacuum, vents air when filling lines with water. Bulletin 1203, 4 pages, tells how. Simplex Valve & Meter Co., 6717 Upland St., Philadelphia 42, Pa.

Identify as IEN - 0904

RESISTANCE WELDING . . Special tooling on standard press-type welding machine enables it to do mash welding, multi-spot welding, other operations. Pictorial 5301, 4 pages, shows hopper feed, indexing, clamps. Progressive Welder Sales Co., 3014 E. Outer Drive, Detroit 34, Mich.

Identify as IEN - 0905

WELDING SERVICE . . Fabricated assemblies by company's welding service include machine-tool frames, diesel-engine blocks and bases, iron ladles. How big these are is shown in 16-page Weldment Catalog W-2. Graver Tank & Mfg. Co., 4811 Tod Ave., East Chicago, Ind.

Identify as IEN - 0906

WELDING SERVICE . . To fabricate steel parts by welding. Examples in 16-page "Weldments" bulletin include turbine housings, press frames, machinery bases, pressure vessels. Struthers Wells Corp., 51 Wells St., Titusville, Pa.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12915

Immediate Delivery

Buy Direct from the Manufacturer and Save

Francis EST. 1880. FACTORY-MILL & WAREHOUSE TRUCKS

Cutting Handling Costs since 1880

WRITE TODAY for catalog and prices

3000-lb capacity

Complete Line — For every use. Standard sizes 27" x 48" and 30" x 54" in stock ready for immediate shipment.

Need more good trucks quick? Buy direct from the manufacturer and save—time AND money. Francis heavy duty, economical trucks feature strong iron work—hardwood frame—rigid construction. All carefully machine fitted. Steel rims or rubber tires.

Manufactured by

HOOSIER FENCE CO. Inc.

Dept. IEN 1701 E. 38th St., Indianapolis, Ind.

If you write maker identify as IEN - 12916

VOLTS and AMPS at a glance with the COLUMBIA

Complete with Voltage Leads and Carrying Case

A. C. TONG TYPE VOLT-AMMETER

• Quickly • Accurately • Safely

Columbia Type AC-1 provides ampere readings with a snap by merely clamping jaws around the electrical conductor, without breaking circuit or insulation. Voltage readings are taken quickly and easily with safety plug-in leads. This instrument is one of the Columbia line of tong type instruments of the highest quality and dependability.

TYPE AC-1 FEATURES

- Measures up to 600 Amperes and 600 Volts.
- Amperes: 0/12/60/120/-600 A.C.
- Volts: 0/150/600 A.C.
- Convenient Range Switch.
- Insulated Jaws will accommodate Conductors up to 1½" diameter, Bus Bars up to 2" x ½".
- Accuracy: 3% full scale.
- Light Weight—Fits Easily into Pocket.
- High Quality at Low Cost.

Inquiries Invited from Distributors • Write for Descriptive Bulletin AC-19

COLUMBIA ELECTRIC MFG. CO. 4519 Hamilton Ave. Cleveland 14, Ohio

If you write maker identify as IEN - 12917

COLLAPSIBLE STOCK BOXES • ROLL RACKS • BULKHEADS

Well Stacked!

Let our rack specialists assist you in planning your new system to incorporate special economies in unit load handling—in production—in storage, regardless of the type material or product or unusual condition involved.

Our strong square tubular EMI racks save floor space and do it in the most efficient way.

Write for our catalog

STOCK RACKS • PALLET RACKS • PALLETS

COIL RACKS • REEL RACKS

DOLLY TRUCKS

EMI EQUIPMENT MFG. INC.

21564 Hoover Road • Detroit 5, Michigan

If you write maker identify as IEN - 12919

For sealed connectors under water

Cannon W Series Connectors operate successfully under water at a depth of 550 feet. Watertight coupling is maintained by special Acme threads on the coupling nuts and shells, and heavy rubber sealing rings. Durable brass shells and overall rugged construction make the W Connectors ideal for heavy duty applications where rough usage is a problem.

W Connectors are available in more than 50 different contact arrangements, with as many as 50 contacts in a single connector. Nominal maximum flashover value 6,500 v; current ratings to 200 a.

it's the W series

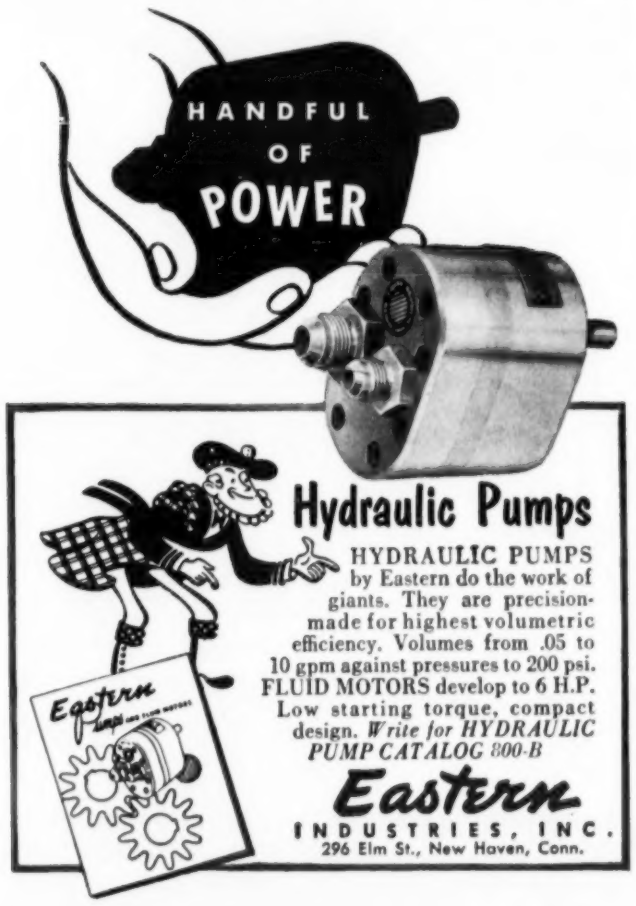
CANNON PLUGS

For engineering data, write for W-3 Bulletin. For a general survey of entire Cannon line, request Cannon Plug Guide.

CANNON ELECTRIC
Since 1915

CANNON ELECTRIC COMPANY, LOS ANGELES 31, CALIFORNIA
Factories in Los Angeles, Toronto, New Haven • Representatives in principal cities.
Address inquiries to Cannon Electric Company, Dept. L-112, Los Angeles 31, Calif.

If you write maker identify as IEN - 12920



Hydraulic Pumps

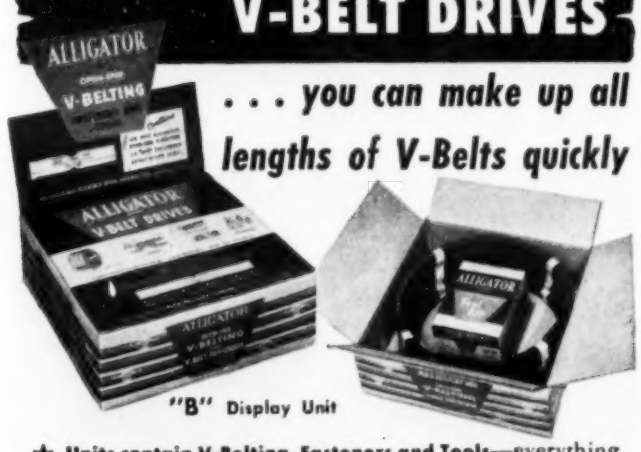
HYDRAULIC PUMPS by Eastern do the work of giants. They are precision-made for highest volumetric efficiency. Volumes from .05 to 10 gpm against pressures to 200 psi. FLUID MOTORS develop to 6 H.P. Low starting torque, compact design. *Write for HYDRAULIC PUMP CATALOG 800-B*

Eastern
INDUSTRIES, INC.
296 Elm St., New Haven, Conn.

If you write maker identify as IEN - 12921

ALLIGATOR V-BELT DRIVES

. . . you can make up all lengths of V-Belts quickly



"B" Display Unit

- ★ **Units contain V-Belting, Fasteners and Tools**—everything you need in one package for all emergencies when correct endless V-Belt is not available.
- ★ **Avoid costly delays,** shut-downs and pickups.
- ★ **Eliminates costly dismantling** of machinery when re-belting.
- ★ **Completely modern make-up units** that give you peace of mind as well as stock on hand.
- ★ **Less Stretch and Follow-Up Maintenance.** Just One Strong Joint.
- ★ **Alligator V-Belt Drive Units,** available in sizes A, B, C and D. B size furnished in display box.
- ★ **Order from your distributor. Ask for Bulletin V-215.**

FLEXIBLE STEEL LACING CO.
4610 LEXINGTON ST., CHICAGO 44, ILL.

If you write maker identify as IEN - 12922

LIGHTING . . Reflector lamp for high bay use in smoky locations

Source: AMPLEX CORPORATION
109-13 Water St., Brooklyn 1, N. Y.

$4 and $4.25 each

Hi-Bay Direct Type R-57 is a new integral reflector incandescent lamp for application in plant areas where the air is filled with dust and smoke and where cleaning is a major problem. The lamp is designed to install in vertical downward position where dust and grime cannot settle on the clear forward area. The silver reflector is inside where it is not subject to corrosion or tarnishing.

The lamp is available in 500 and 750-watt ratings for operation in a 110-volt ac. circuit. The base is threaded to fit a mogul socket or can be supplied in the Mogul Amplock design that includes a locking base. Overall length is 11½ inches. Greatest diameter is 7⅛ inches.

If you write maker identify as IEN - 12923

WASH ROOMS . . Hot air blower replaces towels to dry hands and face

Source: NATIONAL DRYER CORP.
614-B W. Adams St., Chicago 6, Ill.

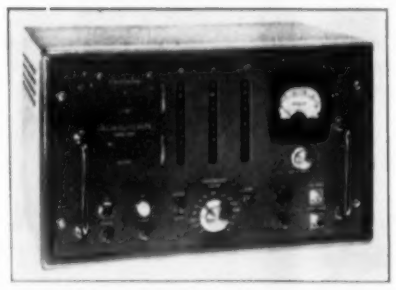
Please note our error

We call your attention to our error in quoting 100 cfm. as the air delivery capacity of the new electrically heated hand drying blower in IEN-11097-53. Actual capacity, given in the original news release, is 152 cfm. at 135 deg. F. in a 72-deg. room. The heated air issues from a nozzle that can be rotated to deliver down or up at any angle with horizontal.

If you write maker identify as IEN - 12924

COUNTING . . Electronic instrument for use in radioactivity measurements

Source: BERKELEY SCIENTIFIC
2202 Wright Ave., Richmond, Calif.



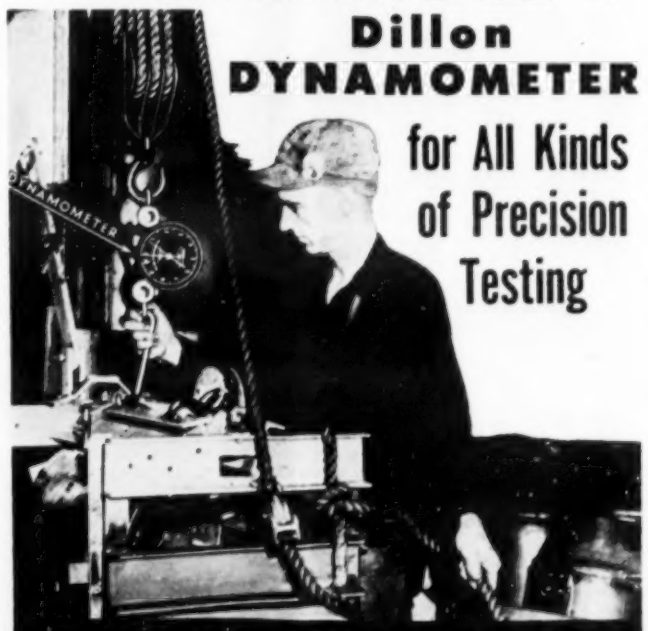
For precise action

Model 2001 Decimal Scaler is new design of the company's Model 2000 scaler previously described IEN-10864-49. It is intended for laboratory use and can be set to run for a total of impulses or to count the impulses in a given time interval. The assembly includes a high voltage power supply with electronic regulation and a direct reading electric time clock.

An electronic scale of 1,000 is employed. Special circuits provide for a number of preset counts and scaling factors for operating external registers or other devices.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12925



Dillon DYNAMOMETER for All Kinds of Precision Testing

Instantly reads tensile loads applied through hoists, turnbuckles, air pistons, etc. View above shows worker checking strength of welded lugs on bomb racks. Provides valuable test data on machinery or bulky items that cannot be checked in conventional laboratory setup. 13 different capacities from as low as 0-500 lbs. up to 0-100,000 lbs. Portable, light in weight, low in cost. Thousands in use. WRITE FOR PROFUSELY ILLUSTRATED CATALOG AND FREE TENSILE STRENGTH COMPUTER.

W. C. DILLON & CO., INC. 14620K Keswick St. VAN NUYS (Suburb of Los Angeles), Calif.

If you write maker identify as IEN - 12926

NEW CARBIDE TOOL FINISHING METHOD

Hammond CARBIDE BELT FINISHER

Model 454
Carbide Belt Finisher

NOW – it is possible to final finish single-point carbide tools

Without diamond wheels
Without highly skilled operators

Here is a NEW METHOD AND NEW MACHINE which have been proved in actual production. The Hammond Model 454 Carbide Belt Finisher is for final finishing with an abrasive belt after rough grinding with a silicon carbide wheel. It features –

TUNGSTEN CARBIDE FACED PLATEN

Permits finishing the end, top and side clearance angles of single point tools.

CONVENTIONAL TABLE

Nothing new for operators to learn. One setting for all size tools.

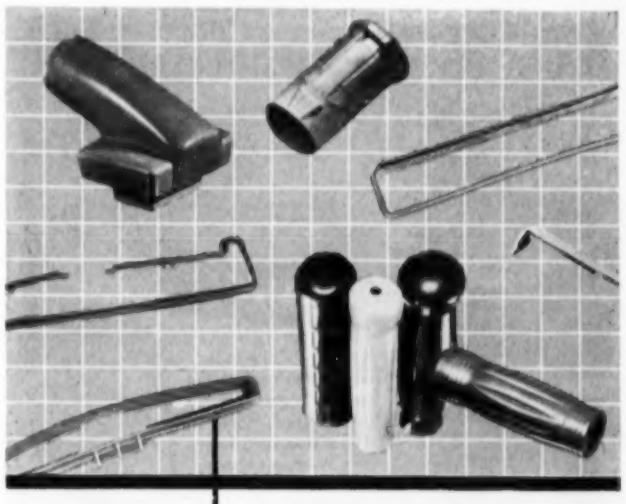
LOW COST INITIAL INVESTMENT

Using abrasive belts in place of diamond wheels means a low cost initial investment. Also eliminates the risk of substantial loss due to damage to diamond wheels.

"Seeing is Believing" "Clip" this ad to your letterhead. We will arrange for you to use one. No obligation.

Hammond Machinery Builders INC.
1607 DOUGLAS AVENUE KALAMAZOO, MICHIGAN

If you write maker identify as IEN - 12927



Soften up tough design problems with BAKELITE flexible Vinyl Plastic compounds

BETTER HANDLE GRIPS for bicycles, lawn mowers, farm equipment, are BAKELITE Vinyl Elastomeric Plastics, providing:
• excellent detail and finish • improved wearing qualities • wide range of colors • warm, pleasant "feel" • resistance to water, sunlight, gasoline, perspiration • tight fit on handle.

BETTER VACUUM CLEANER PARTS, such as bumpers, elbows and handles, are molded of BAKELITE Vinyl Elastomeric Plastics to get these features:
• long-lived flexibility • lightweight • colors resistant to fading and bleeding • toughness • superior finish • abrasion resistance.

When you need a flexible material that combines good appearance with long service life—pick BAKELITE Vinyl Elastomeric Plastics. They're right for so many jobs because

They're FLEXIBLE to almost any degree, from soft and rubbery to semi-rigid . . . withstand long flexing without cracking.

They're HANDSOME . . . color in practically every shade . . . in transparent, opaque, or translucent form with lustrous finish.

They're DURABLE . . . non-fading, abrasion-resistant . . . deliver extra-long service.

They're RESISTANT to oil, most chemicals, corrosive atmospheres, greases, water, alkalies, sunlight, oxidation.

They're ADAPTABLE . . . can be molded in almost any variety of shades, used under a wide range of operating conditions . . . withstand temperature extremes from – 67 deg. F. to 140 deg. F.

Learn more about BAKELITE flexible Vinyl Plastic compounds. Send for the illustrated booklet, "Vinyl Extrusion and Molding Resins and Plastics." It's packed with technical data, typical applications and features such as the sections titled "Suggestions for the Design Engineer" and "Average Properties Tables." For your free copy, write Dept. SF-14.

BAKELITE
TRADE-MARK
VINYL PLASTICS
TRADE MARK

BAKELITE COMPANY
A Division of
Union Carbide and Carbon Corporation
UCC
30 East 42nd Street, New York 17, N. Y.

If you write maker identify as IEN - 12929

IF YOU HAVE A DUST PROBLEM

Send for this *FREE* Bulletin

Reverse Air Jet cleaning of filter tubes is the most important improvement in cloth dust filtering developed for industrial plants during the past 50 years. This Bulletin (No. 528) contains new information on dust control.

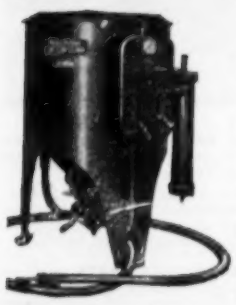
The DAY Company
813-3rd Avenue N.E. • Minneapolis 13, Minnesota
IN CANADA: P.O. Box 707, Ft. William, Ont.
Branch Plants: Buffalo, Ft. Worth, Welland, Ont.

DAY SINCE 1881 — DUST CONTROL
A SINGLE UNIT OR A COMPLETE SYSTEM

If you write maker identify as IEN - 12930

Here's how Pangborn
Solves these Problems
with this modern equipment

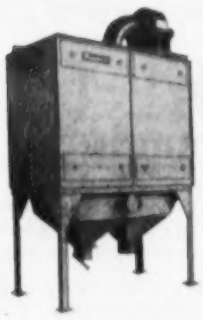
BLAST CLEANING!



Blast Cleaning Cabinet quickly and easily cleans metal parts of rust, grime, dirt, paint, etc. Produces a clean, smooth surface on pieces up to 60" x 36". Models available from $319.00 and up.

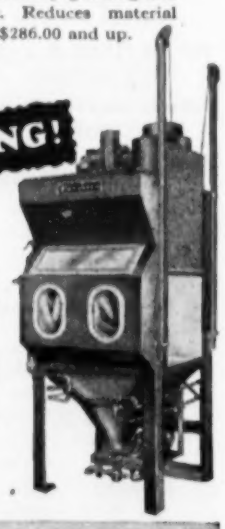
Blast Cleaning Machine not only removes rust, dirt, scale, etc., but is ideal for maintenance and many other uses. Cleans large objects such as bridges, structural work, tanks before painting. Six sizes, portable or stationary, from $188.00 and up.

DUST COLLECTING!



Unit Dust Collector stops dust at its source, minimizes machine wear and tear, reduces housekeeping and general maintenance costs. Solves many grinding and polishing nuisances. Reduces material losses. Models from $286.00 and up.

PRECISION FINISHING!



Hydro-Finish Cabinet uses liquid blast, eliminating dust, and reduces costly hand polishing, cleaning and finishing of molds, dies, tools, etc. Removes scale, discoloration and directional grinding lines, prepares surfaces for plating and coating. Holds tolerances to .0001". Models from $1,410.00 and up.

LOOK TO PANGBORN FOR THE LATEST DEVELOPMENTS IN BLAST CLEANING AND DUST CONTROL EQUIPMENT

Pangborn

MAIL COUPON for full details

(Check for more information)
- ☐ Blast Cleaning Cabinets
- ☐ Blast Cleaning Machines
- ☐ Unit Dust Collectors
- ☐ Hydro-Finish Cabinets

PANGBORN CORP., 2300 Pangborn Blvd., Hagerstown, Md.

Gentlemen: Please send me more information on the equipment I've checked at the left.

Name .....
Company .....
Address .....
City ..... Zone .... State .....

If you write maker identify as IEN - 12932

BEARING . . Barrel roller design, self-aligning for air frame controls

Source: FAFNIR BEARING CO.
35-39 Booth St., New Britain, Conn.

Form 430

Series **DSRP**, self-aligning, roller type bearing, equipped with the company's Playa-Seals, is a new design now in production in a range of sizes with bore from 0.2500 to 0.6250 inch. One with 0.7500-in. bore will be made when demand justifies the tooling. Width of the inner ring is 0.625 to 1.312 inches. Outside diameter is 0.9014 to 2.3750 in., both of these dimensions including the ¾-in. bore assembly. Radial limit load rating is 3,025 to 26,900 lb. with thrust load limit rating equal to 30 per cent of the radial limit.

The barrel shaped rollers fill the races and operate without a retainer. They are held laterally in the inner race by the close fitting inner ring side flanges. Hardened back-up rings, in the outer race, provide positive shoulder stops independent of the seal rings that complete the bearing assembly. Both inner and outer rings are one-piece units.

If you write maker identify as IEN - 12933

TRUCK . . Hand platform unit made of magnesium, load to ½ ton

Source: MAGLINE INCORPORATED
7930 Mercer St., Pinconning, Mich.

One-quarter usual weight

MagLiner is a new all magnesium hand truck available in three widths of 24, 30 and 36 in. and four lengths between 36 and 72 inches. Construction can include a smooth top platform, a safety tread platform or one in planked magnesium construction. The removable handle stands 38 in. above the floor. The platform is protected by rubber corner bumpers.

There are two rigid and two swivel cast magnesium wheels measuring 8 in. in diameter with solid rubber tires. Semi-pneumatic tires can be specified. Handles are interchangeable and can be replaced with special racks or super-structures. Parts have been standardized and are available from stock.

If you write maker identify as IEN - 12934

MANAGEMENT . . How to employ reports for management planning and control is told by book

American Management Association
330 West 42nd St., New York 36, N. Y.

"Reports to Top Management", new 120-page paper-bound book, is based on a recent AMA conference and reprints methods described there by five companies. It covers such topics as motivating executive action through reports, proper dissemination, progress reports, presenting financial data by charts, setting up a group of reports. List price, $3.75.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12935

thousands of users PROVE "HI-TEMP"
C-5 THREAD COMPOUND
IS BEST FOR ALL STUD THREADS and STAINLESS STEEL APPLICATIONS

- ✔ speeds up dis-assembly time
- ✔ prevents stud breakage
- ✔ eliminates pitting of stainless steel

NO MORE FROZEN OR GALLED STUDS . . . EVEN AT 1800° F

Let us SEND you a
FREE SAMPLE
so you can PROVE to YOURSELF that C-5 will lick your toughest stud breakage problems!

To assure easy maintenance on products having threaded assemblies many leading product engineers have specified the use of Fel-Pro C-5 as an anti-seize coating on stud threads prior to final production line assembly.

Fel-Pro's exclusive Colloidal-Copper formula allows for easy separation and reduces stud breakage of threaded assemblies after long exposure to extreme temperatures. It eliminates pitting of stainless and alloy steel even where dissimilar metals are joined.

Conduct your own tests with C-5 "Hi-Temp" at our expense. Write for Free Sample and complete data sheet TODAY!

FELT PRODUCTS MFG. CO. 1523 Carroll Ave., Chicago 7, Ill.

If you write maker identify as IEN - 12936

ACE PLASTIC EXTRUSION

PLUS FABRICATION
- from Rods,
- Sheets, Tubes
- Special Shapes

Extruded parts from the raw material to the finished product . . . an Ace specialty. Ace Plastic rods, tubes and shapes are custom extruded and machined *automatically* to your most exacting specifications. Let our engineers assist you with your plans.

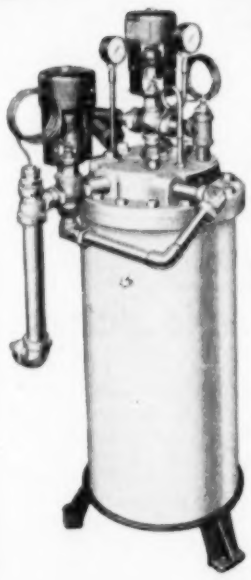
WRITE TODAY FOR SAMPLES; send prints for quotations.
By the manufacturers of famous Ace Nylon Balls.

ACE HIGH QUALITY

ACE PLASTIC COMPANY
Precision Plastic Fabricators and Extruders
91-24 Van Wyck Expressway • Jamaica 35, N. Y.

If you write maker identify as IEN - 12937

CONDITIONS DEMANDED— So-COE developed . . .



The WATER HEATER OF TOMORROW

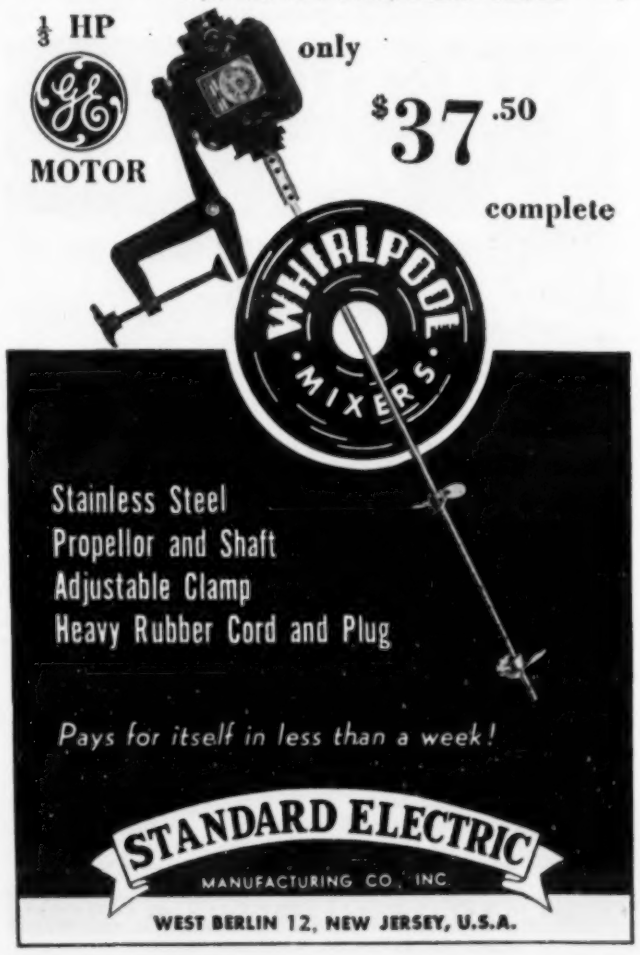
Here is a radically different "package" water heater. • It arrives completely assembled, tested and adjusted. No accessories to buy. Simply attach pipes, then turn on water and steam. • An advanced product of high quality in every detail. • Utililize abundant water at the safe temperature of 120°F. for washroom; or water at 160° to 180° F. direct from tank simultaneously for scalding purposes. • Seventeen sizes in capacities from 200 to 3000 G. P. H.

Heavily glass-lined A. S. M. E. tanks.
MAXIMUM Thermal Efficiency.
All parts quickly and easily accessible.
Completely Insulated and Protected by Waterproof Cover.
Long life through minimum corrosion.
17 Sizes.
Capacities 200 to 3000 G.P.H.

THE COE MANUFACTURING COMPANY
504 BANK STREET • PAINESVILLE, OHIO

If you write maker identify as IEN - 12938

⅓ HP GE MOTOR only $37.50 complete



Stainless Steel
Propellor and Shaft
Adjustable Clamp
Heavy Rubber Cord and Plug

Pays for itself in less than a week!

STANDARD ELECTRIC
MANUFACTURING CO., INC.
WEST BERLIN 12, NEW JERSEY, U.S.A.

If you write maker identify as IEN - 12939

KENT

CUTS CLEANING COSTS

Special Large Capacity Vacuum for wet and dry pickup

- 3 TIMES FASTER than hand mopping. Converts easily for dry pickup.
- EXTRA POWERFUL VACUUM sucks dust, dirt from hardest-to-reach places.
- MOBILE UNIT with extra 27-gal. tank provides ample capacity for efficient, non-stop operation. Vacuum unit easily detachable for small area use.
- DOUBLE FANS produce high suction without excessive motor speed; assure long bearing life.
- AUTOMATIC SHUTOFF VALVE prevents overflow of liquid into fans, motor.

WRITE NOW FOR FULL DETAILS

THE KENT CO., INC.
437 Canal St.
Rome, N. Y.

If you write maker identify as IEN - 12940

● So do we — and we will be glad to tell him the whole story. He'll find out there are many places in your piping layouts where WECO Wing Unions will do a better job than other types of connections. They have a metal-to-metal seat that seals without the use of gaskets or other types of auxiliary seals. Go ahead — send for the bulletin described below and get acquainted with all the advantages of using WECO Wing Unions in your piping layouts.

Send for this new bulletin which has been prepared especially for you. It gives all the facts about WECO Wing Unions, which are available in 1,000 to 15,000 p.s.i. and sizes 1" through 10".

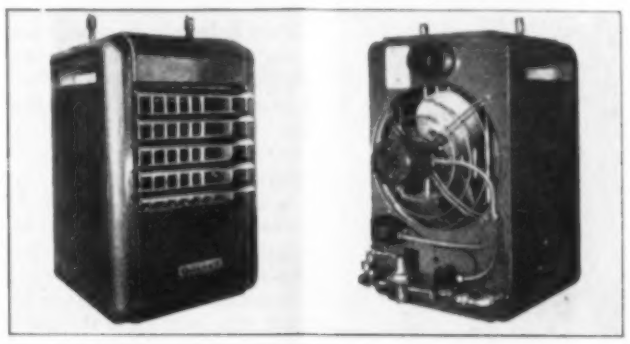
It's Wise to Standardize with... WECO ...

WELL EQUIPMENT MFG. CORP.
Division of Chiksan Company
HOUSTON 1, TEXAS
CHIKSAN COMPANY
Brea, Calif. Chicago 28, Ill. Newark 3, N. J.
CHIKSAN EXPORT COMPANY, Brea, Calif. Newark 3, N. J.
Manufacturers and Distributors of Oilfield, Refining, Marine and Industrial Equipment

If you write maker identify as IEN - 12942

HEATING . . Gas fired space unit, seven sizes to 160,000 btu. per hour

Source: GRINNELL COMPANY
277 W. Exchange St., Providence 1, R. I.



Technical data in "gas fired" bulletin

The gas burner in this new unit heater slides into position in the bottom of the housing. Its unit assembly consists of the individual burners, gas manifold, air shutters and orifices. The burner fires upward into the combustion chamber and from there through 20-gage aluminized steel tubes to a draft head at the top, also made of aluminized steel. Cast iron sheets connect the heat exchanger tubes to the combustion chamber and to the graft-hood. The hood itself includes a flue connection to vent the products of combustion. Relief openings prevent down draft. Burner assembly and combustion chamber are enclosed in a steel housing finished in baked, gray, green enamel. The bottom pan is hinged so it can be lowered to permit cleaning the interior. Die formed louvers at the front are individually adjustable for air distribution.

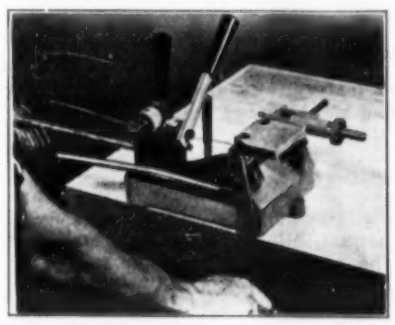
Smallest unit in the line rates 20,000 btu. per hour. It is equipped with a 1,050-rpm. fan direct connected to a 1/40-hp. motor to deliver 400 cfm. Output temperature is 124 deg. F. based on 79-deg. entering air. Maximum throw, under average conditions, is 18 feet.

A 1/6 hp. motor is direct connected to a 20-in. fan operating at 1,140 rpm.in the largest 160,000-btu. unit. This fan delivers 2,900 cfm. with final temperature at 121 degrees. Maximum throw is 56 feet. Automatic controls prevent faulty operation. Construction is in accordance with the safety requirements of the American Gas Association. The heater bears the Association's seal of approval. List price ranges from $167 to $385.

If you write maker identify as IEN - 12943

WINDING . . Hand operated machine for springs, takes wire to 1/8 inch

Source: O'NEIL-IRWIN MFG. CO.
547 Eighth Ave., Lake City, Minn.



No skill required

Interchangeable arbors, adjustable tension and a lever operated cut-off permit hand winding of extension, compression, torsion and flat springs in round, flat, square or rectangular shaped stock with this new hand machine. It is particularly suited for winding duplicate springs. List price is $85 with six arbors.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12944

VULCAN

ELECTRIC HEATING UNITS

STRIP HEATERS

For heating FLAT SURFACES • SHALLOW PANS • POTS • HOT PLATES • PLATENS • PLASTIC EXTRUDERS • OVENS • MELTING POTS • PACKAGE SEALERS • TANKS • DIES, etc.

CONSTRUCTION

SHEATH—one-piece, rust-resisting rectangular tubing.
HEATER COIL—nickel chromium wire, insulated from inner sheath with a refractory selected for best thermal conduction.
TERMINAL SCREWS—stainless steel.

VOLTAGE, 115 and 250

16 STOCK SIZES, from 150 watts, 8" overall length, to 1250 watts, 41⅜" overall length.
STEEL SHEATH for temperatures up to 750° F, max.
HIGH TEMPERATURE SHEATH for temperatures up to 1200° F, max.

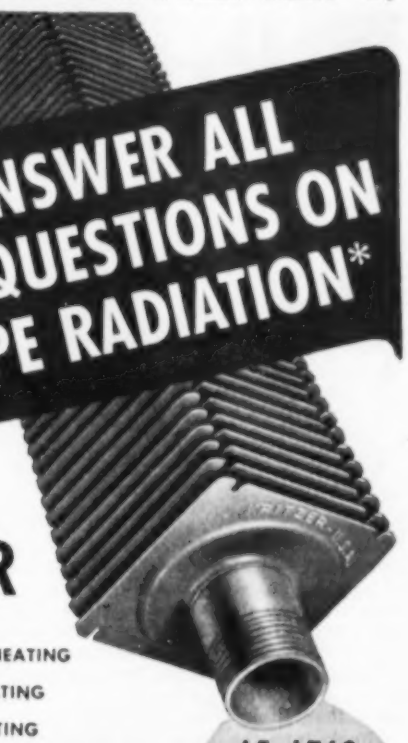
FIVE TERMINAL ARRANGEMENTS.

VULCAN ELECTRIC COMPANY
DANVERS 8, MASS.

Makers of Vulcan Electric Soldering Tools, Electric Solder Pots, Electric Glue Pots, Electric Branding Irons, Electric Heating Units and Electric Heating Devices.

If you write maker identify as IEN - 12945

TO ANSWER ALL YOUR QUESTIONS ON FIN-PIPE RADIATION*



write

KRITZER

*KRITZER BASEBOARD HEATING
KRITZER RADIANT HEATING
KRITZER FIN-PIPE HEATING

See your Jobber for Kritzer Products

KRITZER RADIANT COILS, INC.
2901 Lawrence Avenue, Chicago 25, Ill.

IF IT'S KRITZER, IT'S RIGHT, SIR!

If you write maker identify as IEN - 12946

BOSTITCH P4 STAPLING PLIER

WORKS WHERE OTHERS WON'T

Thin clinching blade → slips easily into tight places

In assembly operations . . . in sealing bags, cartons, corrugated wrappings . . . in making up containers . . . the Bostitch P4 Stapling Plier is a fast-fastening favorite. Loads quickly and easily . . . clinches staples securely with little effort . . . stands up under long, continuous use. Three models; for light, medium and heavy wires, with leg lengths from 5/32" to 9/16."

Write for Bulletin 222. Bostitch, 651 Mechanic Street, Westerly, R. I.

FASTEN IT BETTER AND FASTER WITH

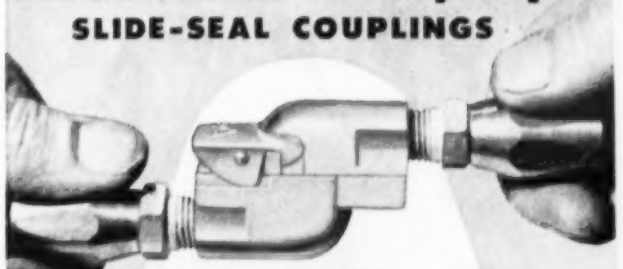
BOSTITCH®
STAPLERS AND STAPLES

If you write maker identify as IEN - 12947

Aeroquip

REG. TRADE MARK

SLIDE-SEAL COUPLINGS



PUSH-PULL

to connect and disconnect fluid-carrying lines

Compact, low cost Aeroquip Slide-Seal Couplings connect and disconnect fluid-carrying lines *instantly* assuring full flow of fluids when connected and perfect seal of each half when disconnected.

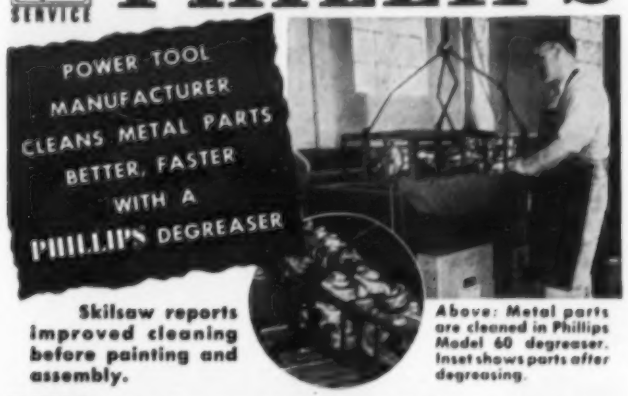
AEROQUIP CORPORATION, JACKSON, MICHIGAN

FLEXIBLE HOSE LINES • DETACHABLE, REUSABLE FITTINGS • SELF-SEALING COUPLINGS • BREAKAWAY COUPLINGS • HYDRAULISCOPE

AEROQUIP PRODUCTS ARE FULLY PROTECTED BY PATENTS IN U.S.A. AND ABROAD

If you write maker identify as IEN - 12948

PHILLIPS



Skilsaw reports improved cleaning before painting and assembly.

Above: Metal parts are cleaned in Phillips Model 60 degreaser. Inset shows parts *after* degreasing.

HERE is another case illustrating the high cleaning efficiency of Phillips degreasers. Skilsaw, Inc., Chicago, uses a Phillips Model 60 electric batch-type machine to clean both aluminum and iron castings, steel stampings, shafts and screw machine parts before painting and assembly of the finished product.

Skilsaw reports that the Phillips unit cleans their parts better, as well as 3 to 4 times faster than their former method.

Check into the time and money you can save with Phillips Vapor Degreasing. Our representative will be glad to discuss your parts cleaning problem with you.

SEND FOR YOUR FREE COPY OF NEW ILLUSTRATED DEGREASER BULLETIN!

Phillips 3461 Touhy Avenue • Chicago 45, Illinois
MANUFACTURING COMPANY
Vapor Degreasers • Solvents • Parts Washers

If you write maker identify as IEN - 12949

Brady QUIK-LABEL Markers ...via GRAYBAR

Send for FREE sample, today.

Get this full card of QUIK-LABELS—enough markers for an adequate on-the-job trial. See for yourself how Graybar-distributed Brady QUIK-LABELS stick to any wiring or conduit surface without moistening . . . how easily they provide positive identification of conduit, cable, wire, circuits, leads, and switches.

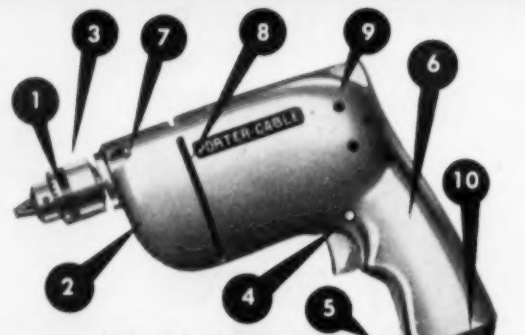
Graybar distributes all of the more than 1000 different styles of Brady QUIK-LABELS . . . wire, conduit, and pipe markers, safety signs, masks and many others, including special signs to your order. For details see your nearby Graybar Representative or write: *Graybar Electric Co., Inc., 420 Lexington Avenue, New York 17, N. Y.*

Call Graybar *first* for . . . Everything Electrical GraybaR ELECTRIC COMPANY

379-1211

If you write maker identify as IEN - 12950

EVERYTHING YOU WANT *in this* NEW 1/4" DRILL



1) True-centering Jacobs Multigraph Chuck
2) Compound reduction gears deliver maximum power
3) Drills within 1/4" of vertical surface
4) Thumb-trigger lock for instant control
5) Convenient chuck key strap included
6) Longer, full-hand pistol grip
7) Spindle ball bearing absorbs radial, thrust loads
8) Air vents never blocked by left hand
9) Brushes easy to get at for quick change
10) Strain reliever prevents cord pulling out

• *PLUS* speed, power: drills 1" bar stock in 2 min.; 1" hardwood board in 1 1/4 min.

Porter-Cable *Quality Electric Tools*

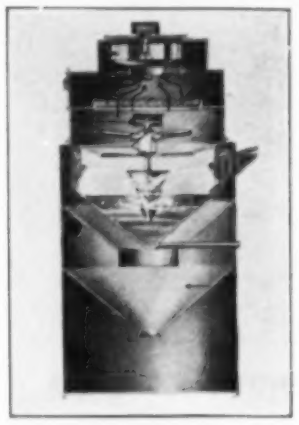
ONLY $29.95 MODEL 107

Porter-Cable Machine Co.
1211 No. Salina St., Syracuse, N. Y.
(In Canada: Strongridge, Ltd., London, Ont.)
See it at your Porter-Cable dealer's or mail coupon for new folder "How To Choose A Drill."
Name
Street
City County State
Manufacturers of SPEEDMATIC and GUILD Electric Tools

If you write maker identify as IEN - 12951

DUST COLLECTING . . Wet type unit also removes fumes, 500 to 50,000 cfm.

Source: SCHMIEG INDUSTRIES INC.
P. O. Box 4701-A, Detroit 34, Mich.



Built to order

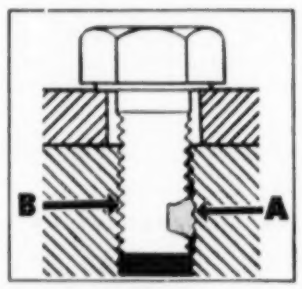
Dust laden air, that may also contain fumes, is entered tangentially above a bottom cone in the circular housing of this new Centri-Merge vertical rotor collector. Heavy particles separate out by centrifugal action. They fall to the bottom of the housing for cleanout at intervals. The finer particles, fumes and air move upward through an annular passage between two cones and the outer wall to turn back, down, and enter the waterwash area set up by the vane equipped belt driven rotor above the upper cone. This rotor dips into a water supply held in the cone, picks the water up and sprays it to fill this section of the unit.

The dust is wetted and stopped by the water. The fumes are removed and the clean air continues upward to pass through moisture extractors to the belt driven blower at the top of the assembly. Disposal of the material collected in the water tank is by drag conveyor, hopper tank skim-off or manual cleanout.

If you write maker identify as IEN - 12952

FASTENING . . Self-locking screw employs a plug insert made of nylon

Source: CONTINENTAL SCREW CO.
700 Mt. Pleasant, New Bedford, Mass.



Specified sizes

Holtite-Nylok trade names a new line of screws and bolts in which a nylon plug insert acts as the locking member. This insert conforms to the outline of the threads as the screw or bolt is turned into position. It presses the screw shank against the opposite side of the threaded hole for tight engagement over the length of the shank in the hole. The plug regains its shape, when the screw or bolt is removed, so it can be used again. It remains serviceable in a temperature range between minus 50 and plus 250 deg. F.

If you write maker identify as IEN - 12953

GRINDING . . Operator's instruction manual on cylindrical grinding machine and its applications

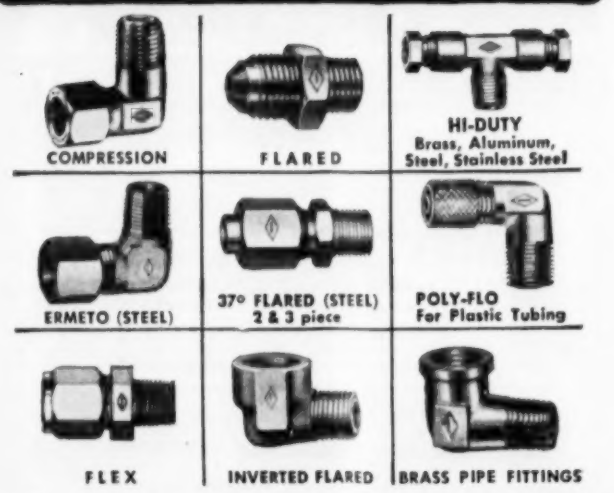
Landis Tool Co.
26 E. Sixth St., Waynesboro, Pa.

New printing makes available copies of the company's 84-page leatherette-bound manual, "Better Grinding", in which information applies to the company's and other makes of cylindrical grinding machines. It tells how to set up work, how to operate and maintain the machine, suggestions on wheel selection, operating hints.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12954

IF YOU USE TUBE FITTINGS
Choose from IMPERIAL'S Complete Line



Imperial offers a broad line of tube fittings (over 2500 sizes, types and styles) for virtually any tubing connection job where copper, aluminum, steel or other metal tubing is used. Also Imperial Poly-Flo Fittings for 1/4" and 3/8" plastic tubing. Flexible hose and attachable fittings, 1/4" to 1/2" equivalent tube size. Also complete line of tubing tools and shut-off valves.

ASK FOR CATALOG 3500. *See Your Industrial Supply House*

The Imperial Brass Mfg. Co., 508 S. Racine, Chicago 7, Ill.
In Canada: 534 Lauder Ave., Toronto, Ontario

IMPERIAL Pioneers in Tube Fitting and Tube Working Tools

If you write maker identify as IEN - 12955

NEW HOBBS SLITTERS & REWINDERS HANDLE LIGHTER and HEAVIER MATERIALS!

Tender, delicate film, as well as heavier weights of paper, plastics, and fabrics are easily handled on low-cost, low-maintenance Hobbs machines.

MODEL 45 SLITTER & REWINDER

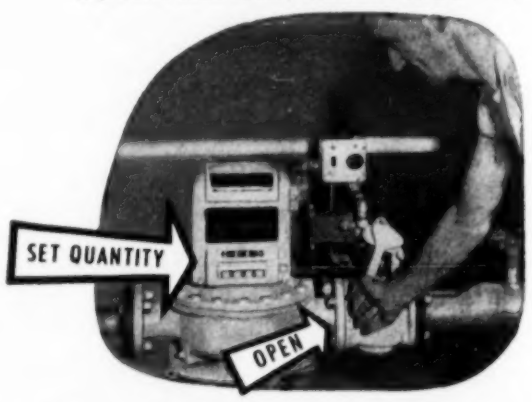
Now you can select from *three* types of cutters and use the one which is best for *your* material. Shear-type, rotary contact or razor-type cutters *all* available!

Smoother starts and stops are made possible by Warner electric clutch and brake. Makes it easy to handle light, tender films, foils, etc. without damage. Power to clutch adjusted by simply turning rheostat button! Four models available to cut widths up to 30", 40", 45", and 60". Rewinds up to 30" diam. Material up to 20/1000" thick.

Send for complete information! Free factory test run using your material without obligation!

HOBBS MANUFACTURING CO.
40 SALISBURY ST., WORCESTER 5, MASS.
EST. 1887
Chicago Office: 549 W. Washington Blvd.
Manufacturers of Jacques Hand Shears, Hobbs Production Cutters, Corner Cutters, Slitters and Rewinders, Autotronic and Tri-Power Die Presses

If you write maker identify as IEN - 12956



Exact, Automatic Formula Control with NEPTUNE METERS

You just push buttons and open the valve. The Auto-Stop meter does the rest . . . automatically shuts off at exact amount of liquid required by your formula. Stops waste, ends spoiled batches, and keeps close tabs on inventories. Handles over 100 industrial liquids. Ask for helpful Bulletin 566-MI.

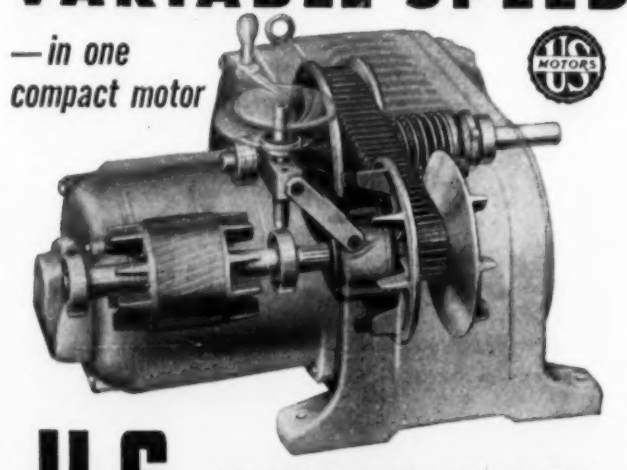
NEPTUNE METER COMPANY
50 West 50th Street • New York 20, N. Y.

Just reach for the phone!

ATLANTA	Lamar 5016	LOUISVILLE	Jackson 2293
BOSTON	Hancock 6-9123	NEW YORK	Columbus 5-3994
CHICAGO	Sacramento 2-4014	NO. KANSAS CITY	Norclay 3345
DALLAS	Riverside 4904	PHILADELPHIA	Locust 4-3170
DENVER	Main 3221	PORTLAND, ORE.	Broadway 0100
LOS ANGELES	Michigan 5112	SAN FRANCISCO	Garfield 1-8144

If you write maker identify as IEN - 12957

Simplified VARIABLE SPEED —in one compact motor



U.S. VARIDRIVE
...miracle motor with infinite speeds

Varidrive accomplishes in a single power unit functions that formerly required many separate cumbersome units. You can instantly vary speed for each load condition; increase production; improve operator's ability; adjust speed to overcome chatter, vibration and pulsation.

Write for new 16-page U. S. Varidrive Motor Bulletin.

U.S. ELECTRICAL MOTORS Inc.
Box 2058, Los Angeles 54, Calif. Milford, Conn.

If you write maker identify as IEN - 12958

SHELDON

CHICAGO U. S. A.

More will be *profit* with a SHELDON

It actually costs less to do most turning jobs on a Sheldon Precision Lathe. Machine-tool investment is cut to a fraction. Power cost is materially reduced. Less experienced operators can operate Sheldons safely and efficiently. Even cost-loadings for plant—floor space, heat and light are lower because two Sheldons can often operate in the space occupied by one large lathe.

On most "everyday" jobs a Sheldon will actually turn out more pieces per hour too. With double V-belts to the spindle Sheldon lathes deliver enough power to take a healthy bite in direct drive, at really high speeds. Sheldon's "Zero Precision" Taper Roller Bearings permit work to the closest tolerances. Very seldom if ever are such extremely accurate bearings used in other lathes.

You will actually keep more as profit if you use Sheldon Lathes wherever possible.

Write for Catalog

SHELDON MACHINE CO., Inc. 4208 North Knox Ave., Chicago 41, Ill.

If you write maker identify as IEN - 12959

CALCULAGRAPH

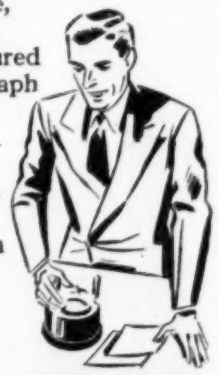
keep tabs on costs

-with ACCURATE job time records

CALCULAGRAPH

figures elapsed time accurately

Reliable job time records are essential for compiling correct cost data, estimating reorders and checking on production efficiency. One sure way to secure accurate to the minute, dependable time costs is to use Calculagraph automatically-figured elapsed time records. Calculagraph gives you total elapsed time, starting and finishing time and date on a permanent, printed reference card. Eliminate losses due to inaccurate job time calculations by using Calculagraph to time your operations.



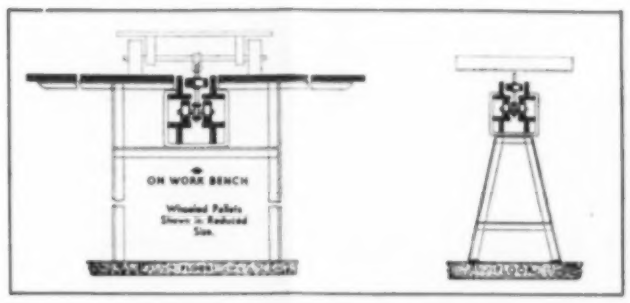
Write for full information today, to Dept. 300

CALCULAGRAPH COMPANY
SUSSEX STREET, HARRISON, NEW JERSEY

If you write maker identify as IEN - 12961

CONVEYING . . Linked trolleys move work through a closed circuit

Source: SHULER CONVEYORS INC.
1045-49 Northern Blvd., Roslyn, N. Y.



Details in Tow and Carrier literature

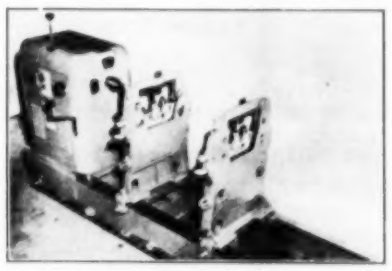
New assembly, in inverted position, is announced by the company for its Econ-O-Veyor, previously described in IEN-7165-51. Loads can be pulled along a supporting surface or can be carried by the trolley plates on spindles, fixtures, holders. The conveyor track applies in a closed circuit that can include angular movement up, down and around horizontal curves.

The track is an assembly of four T-sections that take the vertical load and prevent tilting. The trolleys are connected by swivel links to ride on 6¼ or 12½-in. centers. Drive is by motor equipped stationary units designed for each installation. Section dimensions of the track assembly are 4 in. in width by 4½ in. in height.

If you write maker identify as IEN - 12962

BALANCING . . Dynamic machine swings 40 in., for work to 600 pounds

Source: BEAR MFG. CO.
2014-18 Fifth Ave., Rock Island, Ill.



Automatic and manual

Model 353-R is a new assembly in the company's line of balancing machines, previously described IEN-3745-48. The new machine takes 40 in. in maximum swing diameter for test work mounted on ½ to 5-in. shafts. Weight range is 10 to 600 pounds. Work, to 4½ in. in length, can be swung between supports on a 6-ft. bed.

Overall length of the 6-ft. unit is 8 feet. Width is 25 inches. Height is about 37 in. and weight is 1,300 pounds. Drive is by a 3-hp. 220 or 440-volt 60-cycle 3-phase motor operating at 1,750 rpm. This motor operates with a 4-speed transmission for output speed of 365 to 1,500 rpm. A variable speed drive can be specified.

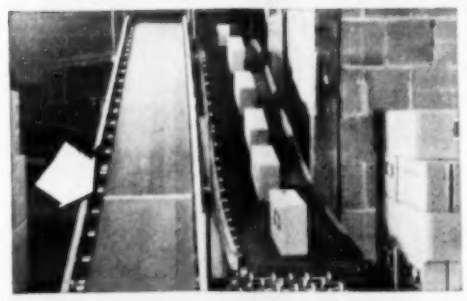
The point of unbalance is located by manipulating two micrometer dials on the two cast iron bearing supports in connection with a spark mechanism on the drive head. Connection between the work and the drive is by universal joint on the output side of the transmission. The bearing supports slide on the bed to adjust for work of varying length. They are moved by turning a lever to operate a pinion on the rack on the bed.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12963

ALLIGATOR ®

CONVEYOR BELT LACING



*Every Tooth A Vise**

in Long Continuous Lengths for Conveyor Belts . . . . .

- ★ Excellent for Package Conveyors, Portable Loaders, Trenching and Ditching Machines, etc.
- ★ In canneries where corrosion or rust is a problem specify Alligator made of Stainless or Monel.
- ★ For magnetic separators or anti-sparking specify Alligator made of Everdur.
- ★ Separable and smooth on both sides.
- ★ 12 sizes. For belts from 1/16" to 5/8" thick—and *any width.*

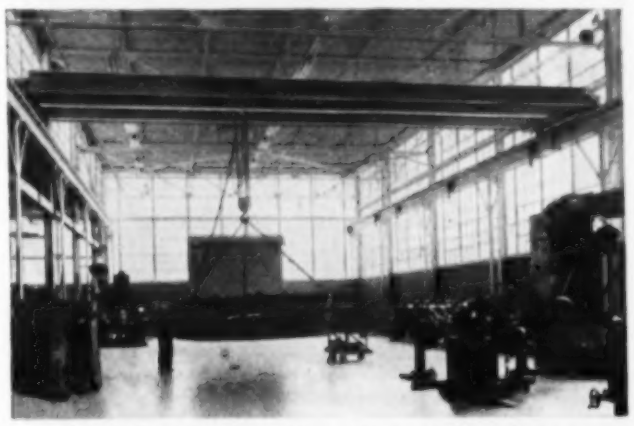
Order from Your Supply House. Ask for Bulletin A-60.

FLEXIBLE STEEL LACING CO. 4610 Lexington St., Chicago 44, Ill.

JUST A HAMMER TO APPLY IT

If you write maker identify as IEN - 12964

NORTHERN HI-LIFT OVERHEAD CRANES



For Safety—Durability—Dependable Operation with minimum maintenance—these NORTHERN HI-LIFT CRANES are especially developed for low headroom operation and floor control. Let us send you further details in

BULLETIN HL-115-R

NORTHERN ENGINEERING WORKS, 2615 Atwater St., Detroit 7, Mich.

NORTHERN CRANES AND HOISTS

If you write maker identify as IEN - 12965

ANNOUNCING

Our New Baby

A

MIDGET CLAMP

UNBELIEVABLY STRONG, WITH PERFECT FEATURES
100 lbs. clamping force with spindle at end of toggle bar!

Sales offices in principal cities

KNU-VISE PRODUCTS **LAPEER MFG. CO.**
3060 DAVISON ROAD • LAPEER, MICHIGAN

WESTERN DIVISION — 422 MAGNOLIA • GLENDALE, CALIF.
CANADIAN DIV. — HIGGINSON ENGR. • HAMILTON, ONT.

If you write maker identify as IEN - 12966

NOW... P&H ZIP-LIFT A NEW "ZIP"

*with Rope Control**

ONLY $199.50

Yes, it's here — the famous P&H Zip-Lift Electric Hoist with an amazing new price tag of *only* $199.50.

Now have these advantages —

- *Wire Rope Hoisting*
No troublesome chains or hidden weaknesses! You get free, easy handling with wire rope — and wide range of side pulls, too.
- *New Rope Control*
Handling is simpler with P&H's unique control designed for fast "one-hand" operation.
- *25% Overload Capacity*
This extra safety factor gives an overload margin up to one-fourth above rated capacity during intermittent usage.

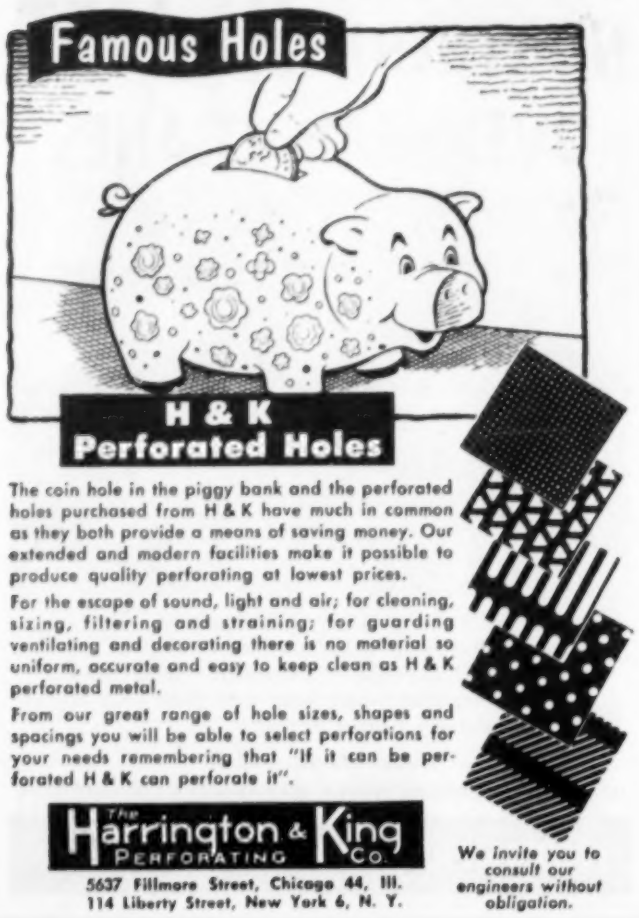
Call your nearby P&H dealer and learn about the latest handling short cuts. He'll show you where and how to cut costs with a "Zip".

Handle it "Thru-the-Air" faster — at lower cost

*Push button control also available as optional equipment

P&H HOIST DIVISION
HARNISCHFEGER CORPORATION
MILWAUKEE 46, WISCONSIN

If you write maker identify as IEN - 12967



The coin hole in the piggy bank and the perforated holes purchased from H & K have much in common as they both provide a means of saving money. Our extended and modern facilities make it possible to produce quality perforating at lowest prices.

For the escape of sound, light and air; for cleaning, sizing, filtering and straining; for guarding ventilating and decorating there is no material so uniform, accurate and easy to keep clean as H & K perforated metal.

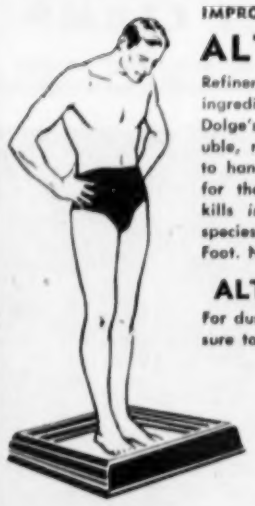
From our great range of hole sizes, shapes and spacings you will be able to select perforations for your needs remembering that "If it can be perforated H & K can perforate it".

The Harrington & King Perforating Co.
5637 Fillmore Street, Chicago 44, Ill.
114 Liberty Street, New York 6, N. Y.

We invite you to consult our engineers without obligation.

If you write maker identify as IEN - 12968

COMPLETE PROTECTION AGAINST
ATHLETE'S FOOT
at moderate cost!



IMPROVED
ALTA-CO POWDER
Refinements and improvements in essential ingredients and production methods make Dolge's famed ALTA-CO more quickly soluble, more agreeable generally and better to handle. Dissolved economically in water for the all-important foot bath, ALTA-CO kills *in less than a minute* all different species of fungi commonly found in Athlete's Foot. Non-irritating; harmless to towels.

ALTA-CO FOOT POWDER
For dusting feet after shower or other exposure to moisture.

H. D. FUNGICIDE FLOOR WASH
Diluted 1 to 300 in water, this powerful wash provides additional protection against Athlete's Foot on surfaces where fungi are commonly found.

Ask your DOLGE SERVICE MAN about money-saving offer on the DOLGE FOOT TUB.

FOR FREE SANITARY SURVEY of your premises consult your DOLGE SERVICE MAN

dependable **DOLGE**
WESTPORT, CONNECTICUT

If you write maker identify as IEN - 12969

They Want Your Tough Jobs
FOOTE BROS.-LOUIS ALLIS GEARMOTORS

Horizontal Double Reduction

Vertical Double Reduction (With Extended Shaft)

This Trademark Stands For The Finest In Industrial Gearing

Duti-Rated Lifetime Gears—Longer lasting, more efficient. Assure longer life, provide maximum capacity in minimum space. Unequalled in the industrial field.

Foot or Flange Mountings—Engineered for toughest applications—floor, wall or ceiling. Ideal for any job—horizontal or vertical.

Heavy Duty Service—Capacities up to 150 h.p. Output Speeds from 780 down to 7.5 r.p.m.

Superior Construction—Sturdy, compact design saves space—minimizes maintenance.

Quality Motors—By Louis Allis. Available with open dripproof, splashproof, enclosed or explosion-proof enclosures.

WRITE FOR BULLETIN GMA

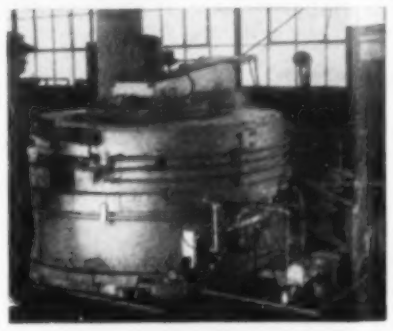
FOOTE BROS.
Better Power Transmission Through Better Gears

Foote Bros. Gear and Machine Corporation
Dept. IEN, 4545 S. Western Blvd., Chicago 9, Ill.

If you write maker identify as IEN - 12970

HEAT TREATING . . Gas fired furnace to anneal or harden small tools

Source: WESTINGHOUSE ELECTRIC CORP.
511 Wood St., Dept. IEN, Pittsburgh 30, Pa.



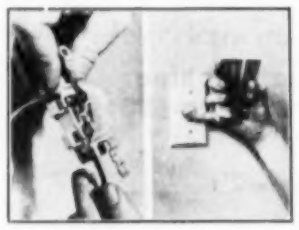
For continuous use

Work pieces are filled into a removable retort that applies in this new gas fired pit furnace for cycle annealing or hardening operations. The retort rides in the heating chamber under a hydraulically operated cover suspended from a pivoted arm. The furnace is equipped with a combustion blower that serves also for purging and cooling. Instruments turn off the gas supply in the event of flame failure or low pressure. Maximum operating temperature is 1,600 deg. F.

Five sizes provide a heating chamber measuring 14 in. in diameter by 8 in. in depth to 30 in. in diameter by 72 in. in depth. Capacity is 120 to 2,100 lb. per hour.

If you write maker identify as IEN - 12971

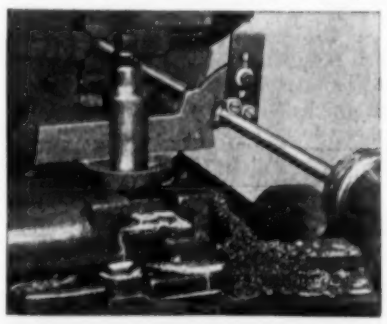
Ever try to flip the lever on a standard toggle switch on a wall while you held a filled glass in your hand? Odds are that you spilled the drink. H. J. Theiler Corp., 22 Ashmont Ave., Dept. IEN, Whitinsville, Mass., offers no-spill switch known as the Feather Touch. It glides from "on" to "off" and back again at the touch of a knuckle or your "bent" elbow.



If you write maker identify as IEN - 12972

LATHE TOOL . . Combination holder and rest for long, small shafts

Source: PULL-GEAR COMPANY
4116-20 E. 8-Mile Road, Detroit 34, Mich.



Mounts on carriage

New tool backs up the work with an adjustable steady rest plate equipped with rollers so there is no tendency to spring a small diameter shaft as the cutter is moved along. The tool is suited particularly for shafts to 1½ in. in diameter. It is shown in the illustration turning a ⅞-in. shaft measuring 30 in. in length with diameter being reduced to $\frac{9}{16}$ in. on a single cut.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12973

HERE IT IS! 10 TON MANZEL ARBOR PRESS

• The New Manzel 10 Ton Hydraulic Arbor Press is engineered to meet a variety of needs in manufacturing plants and automotive service stations. Long ram stroke and unusual depth and width of throat make it adaptable to straightening, material testing, bending, bearing, or bushing work, and many other uses.

The press is portable . . . or can be permanently mounted on bench, column, or wall. Power unit operates 3 times faster. Ram is self-retracting. Accessory equipment include the tonnage gauge and a set of 6 extension inserts, including adapter.

WRITE TODAY FOR COMPLETE INFORMATION — *Manzel* — JOBBER INQUIRIES WELCOME

315 BABCOCK STREET, BUFFALO 10, N. Y.

If you write maker identify as IEN - 12974

SURETY'S SILVERTEX

TOUGH COATING for TOUGH JOBS

Laboratory tests and Industry use show:

- Better chemical resistance than rubber or standard synthetics.
- Silver coating reflects moderate heat radiation.
- Resists cuts and snags.
- Won't crack or peel with use.
- Curved finger design, swing thumb, all standard sizes, styles.

Write for complete information.

THE **SURETY** RUBBER CO. CARROLLTON, OHIO
In Canada: Safety Supply, Toronto

If you write maker identify as IEN - 12975

BURS
ROTARY FILES
MOUNTED POINTS

BURS — MOUNTED POINTS

Small rotary cutters and grinding points with 3/32" shanks.

Wide variety of styles and sizes for tool and die making and similar production operations.

WRITE FOR CATALOG 10
for complete information and prices

PFINGST & COMPANY, Inc.
62 Cooper Square New York 3, N. Y.

If you write maker identify as IEN - 12976

NEW... half the weight of steel
Buschman
PORTABLE ALUMINUM CONVEYORS

WHEEL OR ROLLER TYPE

Lightweight, new Buschman Portable Aluminum Wheel and Roller Conveyor saves time and labor. Ruggedly constructed and rust-resisting, too. You can use it indoors and out! It's completely interchangeable with steel conveyor sections. Easy to set up and move. All-aluminum except for heavy duty, grease-packed, dust-protected, hardened steel bearings. 10 ft. section only 39 lbs. compared to 81 lbs. for steel. Complete range of reversible curves; straight sections from 5 to 10 feet long, 12, 15 and 18 inches wide.

Write for free bulletins 15 and 18 today!

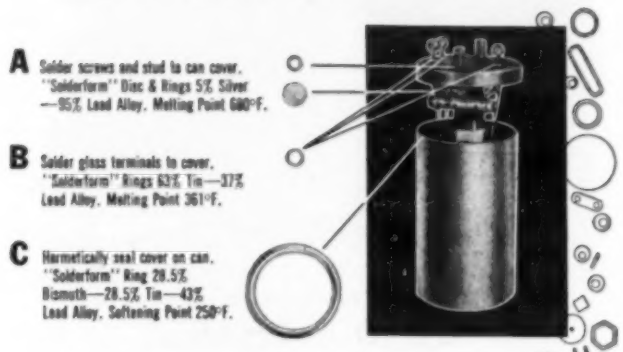
THE E. W. BUSCHMAN CO.
4479 Clifton Ave.,
Cincinnati 32, Ohio

Representatives in Principal Cities

PRODUCE MORE . . FOR LESS on Buschman Conveyors

If you write maker identify as IEN - 12977

3 Soldering Operations in 1 Easy as ABC with KESTER "SOLDERFORMS"



Here's a typical example of a tough resistance soldering job involving progressively lower melting temperatures. Kester "Solderforms" made sure this high precision oscillator coil came through every test successfully.

WRITE TODAY for free "Solderform" samples and literature.

KESTER SOLDER COMPANY

4211 Wrightwood Ave. • Chicago 39, Illinois
Newark 5, New Jersey • Brantford, Canada

If you write maker identify as IEN - 12978

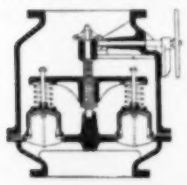
MULTIPLE DISC DESIGN
VAPOR-CUSHIONED ACTION
EASILY ADJUSTABLE

cochrane MULTIPORT VALVE

Saves Steam • Cuts Maintenance • Gives Maximum Protection to Steam Systems

Designed for smooth, positive operation at all times, Cochrane Multiport Valves regulate line overpressure—keep back pressures within upper pressure-temperature limits . . . automatically!

No Freezing, Jamming, Sticking — **Multiple Discs** (3 to 16 per valve) eliminate valve failure.



No Blowdown, Vibration or Wasted Steam — **Vapor-Cushioned** valves ride with overpressure to iron-out fluctuations or pulsations . . . open s-l-o-w-l-y to bleed-off *only* excess pressure, ease closed to tight reseat *exactly at set pressure.*

Fully Adjustable — **Back Pressure Adjustment** at the turn of a wheel. Valve springs are adjustable from zero to the maximum initial relief pressure you specify. Valves can't be "gagged" or "locked-shut".

Precision machined from non-rust, corrosion-resistant materials to give long service under toughest wear conditions.

Unfailing Operation Guaranteed

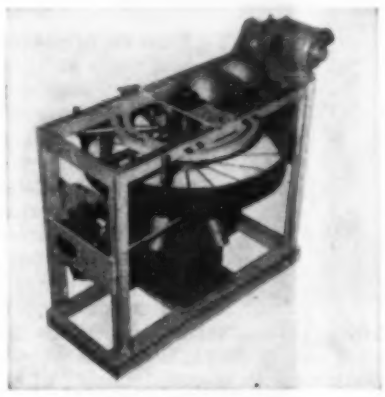
Write today for your free copy of our new Multiport Valve Catalog. It contains detailed information on uses, applications and sizing data.

cochrane corporation
3152 N. 17th Street, Philadelphia 32, Pa.

If you write maker identify as IEN - 12980

FILTERING . . Rotary vacuum unit for crystal materials and fibrous pulps

Source: FILTRATION ENGINEERS INC.
153-57 Oraton St., Newark 4, N. J.



Trade named Feinc

A revolving pan, driven by a motor and speed reductor, is equipped with a bottom divided into wedge shaped hollow sections covered with filter cloth or screen in this new machine. Each section is valve connected to progressively control dewatering, washing and discharging as the table rotates slowly.

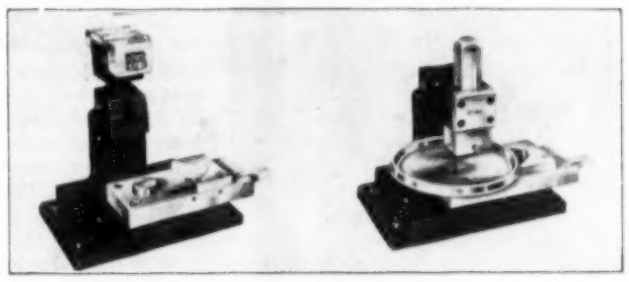
Slurry or pulp flow onto the surface at a feed point and, almost immediately, the liquid is drawn down through the filter media by a combination of gravity and vacuum to leave a thick cake of solids in the pan. This cake passes through one or more washing stages and, after final dewatering, is removed by a revolving scroll and dropped into a discharge chute.

The assembly is self-contained in its structural frame. The various units are accessible for servicing. The machine illustrated mounts a pan measuring 3 ft. in diameter to provide 7½ sq. ft. of filtering area. Weight is about 1,600 pounds. Larger sizes are subject to specification.

If you write maker identify as IEN - 12981

MARKING . . Steel stamp fixture to emboss can lids, has plastic matrix

Source: M. E. CUNNINGHAM COMPANY
1039 Chateau St., Pittsburgh 33, Pa.



Mounts on a bench or in a press

The hinged stamp holder head in this new Type SF-100-AE fixture lifts up as shown to the left in the illustration to place or change the steel characters. It hinges down into marking position above a plastic matrix on which the work is positioned. This matrix takes the indentation from the male characters so a female die is not required.

The indentation does not remain in the matrix so it need not be changed when the stamping characters are changed. Character size of $\frac{3}{16}$ in. is recommended for most applications. The fixture will take lids for cans to 1-gal. capacity by adjusting its locating slide. A spring lifts the holder and type from the work after an impression has been made.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 12982

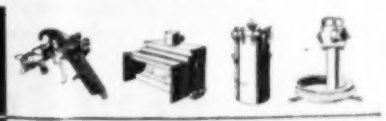
NEW!
ONLY 15 OUNCES!

Binks
Model 26 Spray Gun

Model 26 meets the need for a lightweight production gun. Well-suited to women operators. Excellent for touch-up work on production-line products, in factory maintenance, etc. Low cost but with such heavy-duty features as cartridge-type air valve and brass fluid passage for maximum protection of the aluminum gun body.

Send for Bulletin 26
Colorful bulletin, just printed, explains how featherweight Model 26 saves time and money. Write: Binks Manufacturing Co., 3120-34 W. Carroll Ave., Chicago 12, Ill.

Binks *EVERYTHING FOR SPRAY PAINTING*



GUNS • SPRAY BOOTHS • MATERIAL TANKS • EXTRACTORS & ACCESSORIES
REPRESENTATIVES IN PRINCIPAL U. S. & CANADIAN CITIES • SEE YOUR CLASSIFIED DIRECTORY

If you write maker identify as IEN - 12983

Write for your copy of this new 32-page engineering manual . .

This new illustrated manual is full of information about Mueller Brass Co. brass, bronze and aluminum forgings . . . includes charts, graphs, facts and figures that give complete data about design factors, tolerances and the chemical, mechanical and physical properties of the MBC forging alloys. Get your copy of this valuable handbook today . . . it's yours for the asking.

MUELLER BRASS CO., PORT HURON 26, MICHIGAN
112-A

If you write maker identify as IEN - 12984

"AMF DeWalt is the *One-Machine* answer to our maintenance problems!"

says E. W. Hatchell, Shop Foreman, Miller & Rhoads Department Store, Richmond, Va.

"De Walt® makes it easy to meet our day-to-day maintenance needs. It's ideal for anything that comes up. That includes general fixture work; making flooring, shelving, crating; making or repairing office furniture."

You'll find De Walt brings amazing versatility to your plant maintenance operations, too. It makes many cuts —cross-cut, rip, bevel, miter, dado, shape, rout and others.

And it's fast, accurate, safe.
Send for catalog to
De Walt Inc., Dept. IEN-11
Lancaster, Pa.

AMF products ARE BETTER...by design
AMERICAN MACHINE & FOUNDRY COMPANY

De Walt Inc. Lancaster, Pa.

DE WALT
POWER SAWS

If you write maker identify as IEN - 12985

MAKE *FAST* PERMANENT REPAIRS ON LEAKING FAUCETS, VALVES

REPLACE Worn Seats with Endurable Bronze in a few minutes, STOP WASTE...SAVE MONEY

With an Economy Kit, you can replace worn and cut seats on valves, faucets and bibbs for a few cents—stop leaks for good. Simple—easy to use—Economy Kits and Seats permit *professional* repairs—and waste permanently. Your money back if not satisfied. Write for illustrated circular and price list.

Economy VALVE SEAT CO.
1488 N. Keating Ave. Chicago 51, Illinois

If you write maker identify as IEN - 12986

clinch type
ELASTIC STOP nuts

for attachment to thin section metal components

- Permanently installed by simple clinching or swaging.
- Self-locking and vibration-proof—because all ESNA Clinch Nuts have the famous red elastic locking collar.
- Permit precise screw adjustments: prevent loosening of component parts.

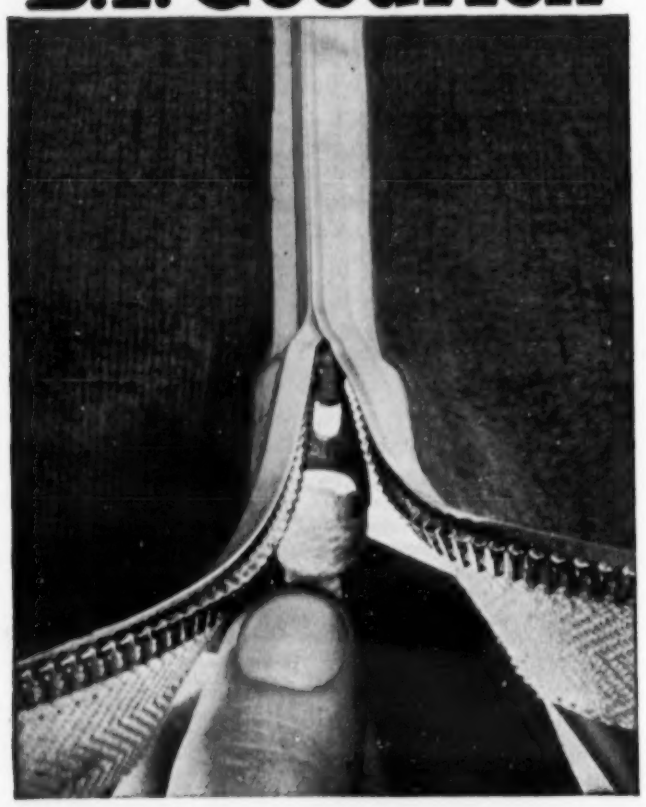
- **WRITE for design information on Clinch Nuts and other special and standard ESNA fasteners. Address Dept. N35-1153.**

ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, N. J.

DESIGN HEADQUARTERS FOR SELF-LOCKING FASTENERS

If you write maker identify as IEN - 12987

B.F.Goodrich



New B. F. Goodrich seal is watertight, airtight, ...zips open fast

A NEW KIND OF SEAL keeps gases, liquids, dirt *in* or *out*. Here's how it works:

Rubber lips are molded with hairline precision so that they fit together tightly. They press together even without pressure to seal effectively. And with pressure against the lips, the seal actually tightens. The rubber seal is applied to an ordinary zipper which zips open or shut in a hurry.

The B. F. Goodrich Sealing Zipper is so flexible it goes around curves and odd shapes where clamps won't work. Can be made of compounds to resist weather, oils, gasoline, chemicals. Can be sewn or cemented to fabric, metal, wood, glass. The rubber can be made to match any color.

It's ideal for any use that combines a need for an airtight, watertight seal with a need for quick opening. The B. F. Goodrich Company, Zipper Division, Akron, Ohio.

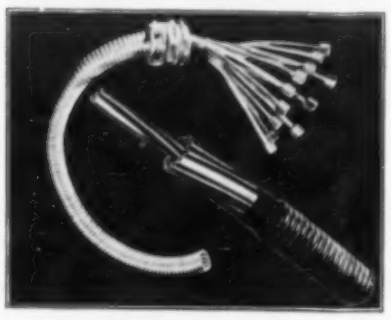
Send Now For Free Folder

Gives design advantages, successful case histories, suggested uses. Shows various zipper styles. Write to **The B. F. Goodrich Company, Dept. A-97, Akron, Ohio.**

If you write maker identify as IEN - 12989

CONDUIT . . Flexible, tube filled, for pneumatic and hydraulic controls

Source: CRESCENT INSULATED WIRE & CABLE CO.
317-21 N. Olden Ave., Trenton 5, N. J.



Multitube bulletin

Two to nineteen tubes, made of ¼-in. copper or aluminum, are contained in stock assemblies of this new Armored Multitube. The tubes are twisted together to permit bending the armored assembly without distortion. They are protected inside the flexible interlocked galvanized steel armor. Special assemblies are available with specified number of ½-in. or smaller tubes. Aluminum, copper, plastic can be specified.

One tube in each layer, inside the armor, is colored bright blue. The positions of all other tubes in that layer remain the same through the complete length. This assists in identifying the tubes at the two ends of the conduit for correct connection. The conduit is available in continuous lengths to 1,000 feet. The internal tubes are good for not less than 50-lb. pressure. The user can specify test to 100 pounds.

If you write maker identify as IEN - 12990

SNOW PLOW . . Engine driven, gathers and throws snow to one side

Source: JARI PRODUCTS INC.
2936-40 Pillsbury Ave., Minneapolis 8, Minn.

Cuts 20 inch path

New size, with a 2½-hp. engine, has been added to the company's line of snow plows, previously described IEN-13464-52. The new machine will clear a 20-in. path in one pass. It will operate in drifts to 36 in. in height. Its casting chute is adjustable for height, distance and direction. The engine drives a blade equipped disc that also carries a rake to break up packed snow.

The open end construction operates efficiently when the snow is wet and slushy. The engine supplies power for forward movement also so the operator needs only to steer and follow. Various attachments convert the power unit to other seasonal uses such as cutting down weeds and mowing lawns.

If you write maker identify as IEN - 12991

Infra-red oven, measuring 13 ft. in width by 24 ft. in length, is employed to vulcanize latex backing on carpeting. Input to the oven is 217 kw. when operating at peak capacity. The carpet travels through on a conveyor, 3 in. below the heating elements, at 12 feet per minute. Corona Mfg. Co., 5208-12 San Fernando Road, Glendale 3, Calif., is the oven maker.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

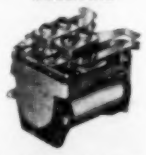
If you write maker identify as IEN - 12992

FLIGHT COMPUTERS to BUSINESS COMPUTERS

with **GUARDIAN® *Relays***

NO. 1A A.C. SOLENOID

THE SWITCH IS ON to Guardian Relays, Steppers, Solenoids and Contactor units to improve the performance of business machines that count and compute. Guardian's No. 1 Solenoid is appropriately the No. 1 choice of leading manufacturers of adding machines. The Guardian Series 595 D. C. Relay is widely used in adding machines and computing devices. Available with open type (up to 4 P.D.T.) construction or *hermetically sealed* to specification. Send b/p for a prompt quotation and specific recommendations.



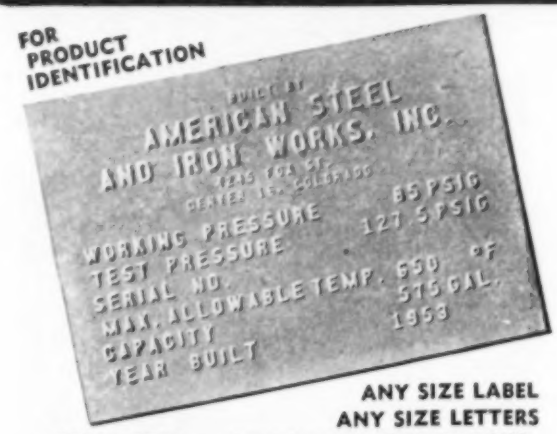
SERIES 595 D.C. RELAY

GUARDIAN ELECTRIC
1620-M W. WALNUT STREET CHICAGO 12, ILLINOIS
A COMPLETE LINE OF RELAYS SERVING AMERICAN INDUSTRY

If you write maker identify as IEN - 12993

EMBOSSED LABELS

FOR PRODUCT IDENTIFICATION



ANY SIZE LABEL
ANY SIZE LETTERS
ANY METAL — FERROUS OR NON-FERROUS

NO DIE CHARGE

Raised-letter nameplates to your specifications. Less expensive than comparable etched labels.

You can tack-weld, rivet or screw them to your product. You can paint or galvanize over them. All wording will remain sharp and clear. We also manufacture etched and lithographed labels.

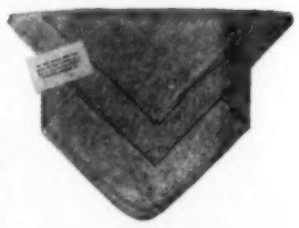
Write for Literature and Price Quotation

DEPT. A

TECH PRODUCTS, INC.
442 Mosel Avenue Staten Island 4, N. Y.

If you write maker identify as IEN - 12994

what are wiping cloths doing in this ad?



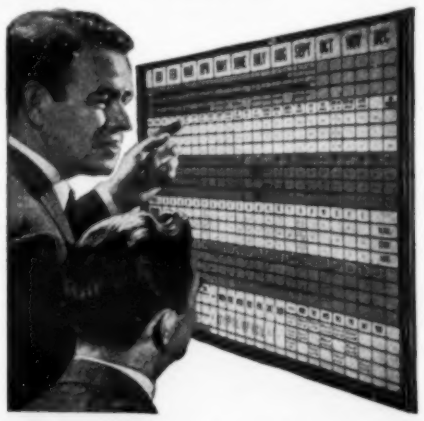
Chances are you don't make wiping cloths. But they are pictured here just as an example of the many unusual materials that can be cut from rolls with a Beck Automatic Roll Sheet Cutter. So, if you're working with any material in rolls that you find "difficult" to cut and handle, write us about it. In return you'll receive complete details on how a sheet cutter will give you smooth, high production cutting — with savings that soon pay back the machine's modest cost.

SEND NOW FOR THIS CATALOG.

CHARLES BECK MACHINE CORPORATION
412 N. 13th Street Philadelphia 8, Pa.

If you write maker identify as IEN - 12995

GRAPHIC VISUAL CONTROL



THE BOARDMASTER SYSTEM

- ★ Graphic Picture of Your Operations—Spotlighted by Color
- ★ Facts at a Glance—Saves Time and Eliminates Confusion
- ★ Simple and Flexible—Easily Adapted to Your Operations
- ★ Easy to Operate—Type or Write on Cards, Snap on Board
- ★ Ideal for Production, Scheduling, Inventory, Traffic, Etc.
- ★ Compact, Attractive. Made of Metal. In Use 6 Years.

Complete Price $49.50 Including Cards

FREE 24-Page ILLUSTRATED BOOKLET E-500 Without Obligation

GRAPHIC SYSTEMS, 55 West 42nd St., New York 36

If you write maker identify as IEN - 12996

THREE "CHEATS" IN THE WIND

Dont let Dirt, Dust, and grit rob your machinery of its efficiency — *cheat* you out of profitable operation. Blast 'em out of every crack and crevice with a powerful CLEMENTS - CADILLAC blower-suction cleaning tool. Cleans all types of equipment . . . quickly, thoroughly, economically.

SAVE TIME • MONEY PREVENT DAMAGE TO MACHINERY WITH THE . . .

Made in 5 models with attachments for every cleaning job.

PORTABLE COMBINATION BLOWER-SUCTION CLEANER

CLEMENTS CADILLAC

CLEMENTS MFG. CO.
6620 S. NARRAGANSETT AVE. CHICAGO 38, ILL.

ASK YOUR MILL SUPPLY DEALER OR WRITE US FOR DATA

If you write maker identify as IEN - 12997

DIAMOND

ROLLER CHAINS AND SPROCKETS

TRADE MARK

Stock Drives for all Popular shaft sizes. For all standard Drive Ratios and H. P. Capacities

The Diamond Chain combination of roller chains, taper bore sprockets and bushings, and the fixed bore sprockets in the small sizes provide for emergency and normal service demands for all standard drive ratios and popular horsepower capacities.

Take advantage of the "over-the-counter" availability of this Diamond stock of Chains and Sprockets for new applications and replacements. This stock is as near as your telephone. See the yellow pages of your classified telephone directory for the address of the Diamond Chain distributor.

BUSHED SPROCKETS —With the Taper Bore Sprocket and Bushing, the bushing is changed to meet various bore sizes.

FINISHED BORE SPROCKETS—Small size Diamond finished fixed bore stock sprockets (with keyways and setscrews) give the distributor the balanced stock to meet the widest possible chain drive requirements.

Catalog 753 Mailed on Request

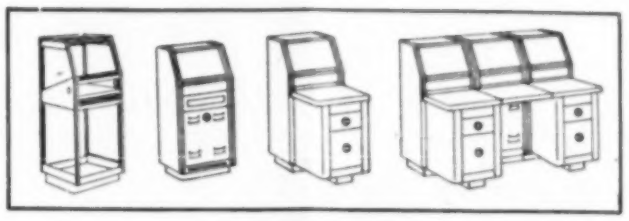
DIAMOND CHAIN COMPANY, Inc.
Where High Quality is Traditional
Dept. 465, 402 Kentucky Avenue, Indianapolis 7, Ind.
Offices and Distributors in All Principal Cities

DIAMOND ROLLER CHAINS

If you write maker identify as IEN - 12999

FABRICATING . . Basic housing, components for electronic assemblies

Source: ELGIN METALFORMERS CORP.
901-5 N. Liberty St., Elgin, Ill.



Bulletin 101-C

New console frame, measuring 21 by 21 by 48 in., is made of steel in welded assembly. It is fitted with standard RTMA and WE mounting holes in this new unit for standardized fabrication of electronic equipment. There are 80 in. of insert panel space. Standard knockouts are distributed over the top shelf, base and sides for wiring. Provision is made for a key, jack and auxiliary control panel. Any number of the units can be locked together and employed with about 75 component parts to meet a range of assembly requirements.

If you write maker identify as IEN - 13000

CUTTING . . High speed tool bits, ten ground sizes are 3/16 to 1 inch

Source: BESLY-WELLS CORPORATION
51 Clinton St., Beloit, Wis.

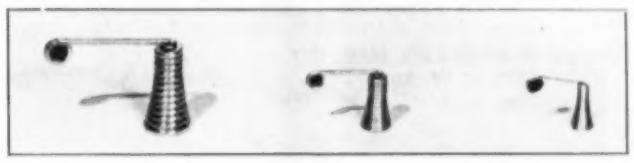
Identified as Besly Bonus

Red hardness, toughness and resistance to abrasion characterizes this new line of tungsten molybdenum alloy bits. Each is ground to within 0.001 in. of section dimensions in a range of square units from $\frac{3}{16}$ to 1 inch.

If you write maker identify as IEN - 13001

CONNECTOR . .Tapered spring is turned to grip stripped wire ends

Source: MINNESOTA MINING & MFG. CO.
902 Fauquier St., St. Paul 6, Minn.



Packaged in boxes of 100

Two new sizes have been added, one larger and one smaller, to the tapered spring connector previously described IEN-8608-52. The three available sizes now apply on solid or stranded wire in combinations from No. 6 to No. 18. The connector is listed by Underwriters' Laboratories for use as a solderless connector. The notched turning stem provides leverage during application. Then it is snapped off. Recommended insulation to apply over the completed connection is "Scotch" plastic electrical tape No. 33. The coil spring design permits the connector to expand while it is being applied for a shake resistant tension grip on the wires.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 13002

FOR UNEXPECTED PROFITS in Your Shop

ask yourself these questions:

• Could you increase productivity and profits by fast rearrangement of machines to meet new production needs, with "down time" all but eliminated? • Could you benefit by speed in leveling certain types of machines? • In precision machining operations, such as grinding, do you ever find that rejects are traceable to vibration? • Would you like to forget about lagging machines to the floor to keep them from walking? • Would your worker productivity increase if you could reduce plant noise?

. . . then let us do something about the answers.

The NEW Leveling Barrymount can make profits for you out of problems you may have thought couldn't be solved. It represents a wholly new idea in mounting machinery. What it can mean to you in immediate profits is described in this new bulletin.

Write TODAY for your free copy of "LOOK—NO LAGGING!" to

THE BARRY CORPORATION
738 Pleasant St. • Watertown, Mass.

If you write maker identify as IEN - 13003

60-DAY FREE TRIAL

of America's most popular industrial stool

A tired worker costs MUCH more than a good chair

- 4-way adjustable backrest
- Scroll shaped posture seat
- Tamper-proof tubular all-welded construction
- 3 adjustable height ranges.

Now test Royal's famous No. 515 stool in your own plant without cost or obligation. See why the country's top firms choose it for superior versatility and durability. Write for free trial stool today!

metal furniture since '97 Royal

ROYAL METAL MANUFACTURING CO.
175 North Michigan Avenue, Dept. 211, Chicago 1

If you write maker identify as IEN - 13004

Get positive contact dependable service with

STALEY METALLIC MERCURY SWITCHES

- *No switch points to burn, pit or stick!*
- *No glass to break!*

Day in, day out — year in, year out — millions of Staley Metallic Mercury Switches make positive mercury-to-mercury contact . . . give life-long, trouble-free service. Metal cap and body. Refractory breaker shields and de-ionized arc in inert gas. High degree of safety even in explosive atmosphere. Available in two types: Non-insulated for clip mounting. Insulated and provided with flexible terminals. Write today for descriptive bulletin. Specify Dept. IEN-405.

ELECTRIC SWITCH CORP.
1304 E. ELEVENTH STREET • COLUMBUS, INDIANA

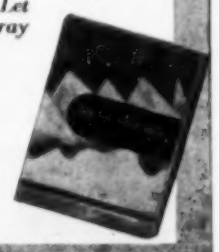
If you write maker identify as IEN - 13005

FOR EFFECTIVE SPRAYING AT LOWER COST

remember final control is the SPRAY NOZZLE you use!

In design . . . choose the Spray Nozzles that give you proper performance, with exact spray pattern, impact, spray angle and capacity. In application . . . be sure the nozzles as supplied are produced to close tolerances. Metallurgically, make certain the spray nozzles fit your use.

With Spraying Systems you can be sure of spray nozzles to meet all three requirements. *Let Spraying Systems Co. recommend Spray Nozzles to meet your needs best.*



YOUR GUIDE TO SPRAY NOZZLE SELECTION
Spraying Systems Co. Catalog No. 22 . . . 32 pages, with complete performance data. Also write for Catalog 23 . . . Pneumatic, Atomizing Nozzles.

SPRAYING SYSTEMS CO.
3208 RANDOLPH STREET • BELLWOOD, ILLINOIS

FOR EFFICIENT SPRAYING MAKE SURE THE NOZZLE IS RIGHT

If you write maker identify as **IEN - 13006**

Increased Insulation

BETTER CONNECTIONS

JONES BARRIER TERMINAL STRIPS

Leakage path is increased — direct shorts from frayed terminal wires prevented by bakelite barriers placed between terminals. Binder screws and terminals brass, nickel-plated. Insulation, BM 120 molded bakelite. Finest construction. Add much to equipment's effect.

Jones Means Proven Quality

Illustrated: Screw Terminals — Screw and Solder Terminals — Screw Terminal above Panel with Solder Terminal below. Every type of connection.

Six series meet every requirement: No. 140, 5-40 screws; No. 141, 6-32 screws; No. 142, 8-32 screws; No. 150, 10-32 screws; No. 151, 12-32 screws; No. 152, ¼-28 screws.

Catalog No. 18 lists complete line of Barrier Strips, and other Jones Electrical Connecting Devices. Send for your copy.

HOWARD B. JONES DIVISION
CINCH MANUFACTURING CORPORATION
CHICAGO 24, ILLINOIS
SUBSIDIARY OF UNITED CARR FASTENER CORP.

If you write maker identify as **IEN - 13007**

When You Specify

"CHICAGO" Threaded Products *You Get* FASTER SERVICE

Our more complete stocks mean "at once" shipments of quality fasteners when you need them—no production delays—no maintenance "shut downs."

"Chicago" quality threaded products include:

Hexagon Head Cap Screws, Bright and Heat Treated Grade 5 • Square Head and Headless Set Screws • Hexagon Nuts • Hexagon Castellated Nuts • Socket Head Cap Screws • Socket Set Screws • Socket Pipe Plugs.

To Speed deliveries to you, order "Chicago" products from your nearest Industrial Supply Distributor. He carries a complete stock of our products—he will gladly furnish you with samples—his familiarity with your local field conditions enables him to fill your needs promptly and correctly.

The CHICAGO SCREW COMPANY
2525 WASHINGTON BOULEVARD
BELLWOOD, ILLINOIS

If you write maker identify as **IEN - 13008**

TYPE D5

PRECISE, VERSATILE TEMPERATURE CONTROLS

TYPE D98

The two thermostats shown are precision-built controls which permit accurate temperature settings over wide working ranges. They are widely used on laboratory and industrial ovens, water baths, hot plates, incubators and similar applications where flexibility of use is required. The various models cover ranges of 175° or 300° C., between limits of -75° C and 350° C with on-off differentials as low as approximately .14 C.

The model D98 shown is similar to D5 above, but is enclosed in an explosion proof housing for use where volatile fumes or dust are present. Bulletin #3-1 gives full information on these controls. Send for your free copy today.

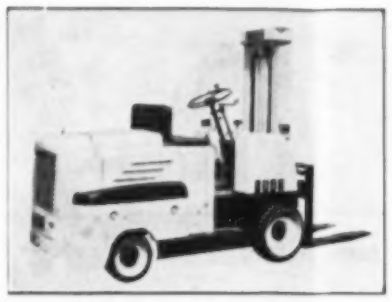
UNITED ELECTRIC CONTROLS COMPANY
80 School Street, Watertown, Mass.

STANDARD & SPECIAL THERMOSTATS & PRESSURE SWITCHES

If you write maker identify as **IEN - 13009**

TRUCK . . Engine driven fork lift rates 3¾ ton on 24 in. load center

Source: BUDA COMPANY
15401 S. Commercial St., Harvey, Ill.



Features accessibility

Model FT-75-24, with gasoline engine drive, and Model FTD-75-24, with a diesel engine, are two new trucks rating 3¾ ton on 24-in. load center. The new units supplement the 3-ton assemblies previously described IEN-9273-53. Both engines are the company's own manufacture. Both trucks are available in 72 to 114-in. lift heights. Overall length is about 100 in. without the forks. Wheelbase is 60 inches. Width is 42 inches. Trucks turn in 78-in. intersecting aisles.

Construction includes a single-lever automotive type gear shift, center point automotive steering, instrument panel, hydraulic brakes, steel upright structure, self-aligning lift cylinder, roller bearing carriage mounting, cushion or solid rubber tires. Side panels, rear and top can be opened wide for access to the interior. The clutch can be changed in about 30 minutes.

If you write maker identify as **IEN - 13010**

MELTING . . Granular chemical to melt ice and snow, provide traction

Source: COLONIAL REFINING & CHEMICAL CO.
953 N. B. C. Bldg., Cleveland 14, Ohio

Inspection sample upon request

Kleen-Sweep is a new granular material to spread over a sidewalk or road. It clears ice away and remains sufficiently active to prevent it from reforming within 24 hours. The material also can be employed to thaw out frozen gutters, pipes, sewer lines. It provides traction for vehicles in snow or on ice. It will not harm concrete, metals, tires, shoes, grass, shrubs. It leaves no white deposit.

If you write maker identify as **IEN - 13011**

WRENCH . . Open end design with tapered jaws and narrow heads

Source: BLACKHAWK MFG. CO.
5323-27 W. Rogers St., Milwaukee 46, Wis.

Helps repairmen

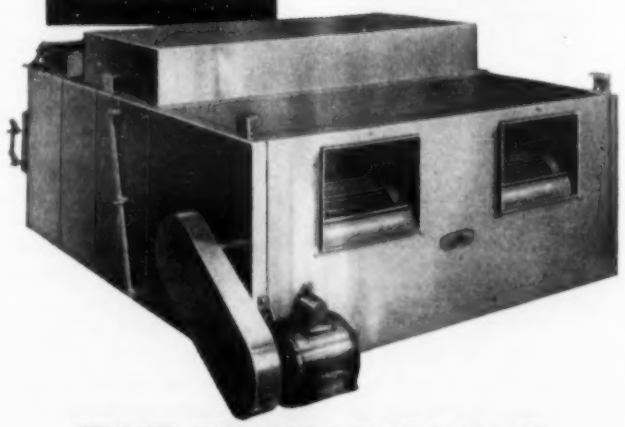
Wedg-Head trade names a new line of heat treated alloy steel open end wrenches. The new units are characterized by their narrow heads and by the tapered jaws that permit them to get into unusually close quarters. The head is angled to assist in clearing obstructions. A recess, inside the head, permits full jaw grip at any angle. Three sizes have openings of 7/16 and ½ in., 9/16 and ⅝ in., ¾ and ⅞ inch.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 13012**

usAIRco
EVERYTHING IN AIR CONDITIONING

FOR HEATING AND VENTILATING LARGE AREAS UNIFORMLY AND ECONOMICALLY



TYPE BH HEATING AND VENTILATING UNITS

usAIRco's Blower Type Heating and Ventilating units can do one or more of the following: heat, ventilate, filter, mix air . . . with or without ductwork. Coordinated sectional construction makes possible a limitless number of component combinations. Available in 8 sizes, 1,200 cfm to 32,000 cfm —ceiling, floor or wall models.

Select Any Combination Of Components To Fit Your Application!
Blower Section
Air Intake Mixing Chamber
Face and By-pass Damper
By-pass Duct
Filter Section
Coil Section

Write Dept. IEN 113

usAIRco
UNITED STATES AIR CONDITIONING CORPORATION
MINNEAPOLIS 14, MINNESOTA

If you write maker identify as **IEN - 13013**

Aerovent

BELTED DUCT FAN

KEEPS MOTOR OUT OF AIR STREAM

For Foundries, Paint Spray Booths, Sanding, Acid Tank Rooms, etc., where fan motors must be protected

Aerovent Belted Duct Fans with "Machete" design handle maximum air with minimum use of power. Sizes 12" to 84"; 2, 4, or 6 blades. All fans furnished with ball bearing motors suitable for mounting in any position. Easily installed. For many applications.

Other Models: Direct Connected, Man Cooling, Extended Shaft, Duct Type, Pulley Drive.

Write today for ENGINEERING BULLETIN

AEROVENT FAN CO., INC.
ASH AND BROWN STREET, PIQUA, OHIO
Sales Engineers in Principal Cities

If you write maker identify as **IEN - 13014**

NOW— IT'S OFF LIKE A STREAK!

NEW TIME-SAVING
BLUE STREAK©
RELEASE COATING

Exclusively on BRADY ★ *Wire Markers* ★ *Special Markers* ★ *Pipe Markers* ★ *Safety Signs* ★ *Quik-Masks* ★ *Container Markers* ★ *Fluid Line Markers* ★ *Write-On Labels* ★ *Stencils*

These Brady Products were always good . . . New BLUE STREAK Release Coating makes them *great!* Now *standard* on all Brady Products, BLUE STREAK permits instantaneous and *practically effortless* removal of Brady Markers and Masks from Brady Dispenser Cards.

It ends distortion that USED to result from twisting and tugging when trying to pull Markers off old-style Cards. You will cut your marking costs because BLUE STREAK reduces application time as much as 90%!

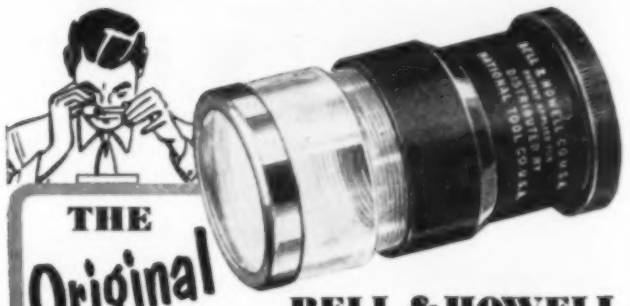
See for yourself how BLUE STREAK will cut your marking, masking and labeling costs. Write today for FREE, useful literature and BLUE STREAK Demonstration Kit.

WIRE MARKERS · PIPE MARKERS · SAFETY SIGNS · AISLE MARKERS · MASKS & STENCILS · PRINTED ROLL TAPES

MANUFACTURERS OF SELF-STICKING PRODUCTS
W. H. BRADY COMPANY
789 W. Glendale Ave., Milwaukee 12, Wis.

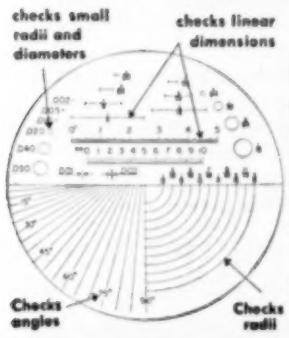
No. 1 name and No. 1 source for Self-Sticking Industrial Products.

If you write maker identify as **IEN - 13016**



THE Original BELL & HOWELL

Pocket Comparator



Saves time and money inspecting small dimensions

● Here's *guaranteed* accuracy in checking small dimensions at a price any business can easily afford. Save time and money measuring wear on cutting tools, checking forms and dimensions of punches, dies and gauges—as well as chamfers, threads and small holes on production parts.

Thousands in use by America's leading precision manufacturers. It's the greatest time-saver since the micrometer!

price only **$36.00** order today

A product of **BELL & HOWELL CO.** Distributed by

See Your National Tool Co. Representative or Local Jobber

NATIONAL TOOL CO.

Write for **FREE** descriptive folder

11220 Madison Avenue Cleveland 2, Ohio

If you write maker identify as **IEN - 13017**

Shopping for Ideas...

to add more power, longer life to your electrical equipment?

Get the Facts! **This new brochure gives 30 examples of how production, maintenance and design engineers in major industries are using Class H insulation made with Dow Corning Silicones to:**

1 *make motors last longer*

in thousands of applications

. . . where overloads cause frequent failure
. . . where high ambient temperatures limit life of ordinary motors
. . . where rapidly reversing service causes premature failure
. . . where ordinary motors fail because of excessive moisture plus occasional flooding
. . . where cost of down-time is prohibitive

2 *give motors more muscles*

in thousands of installations

. . . where high starting loads or periodic overloads cause repeated failure
. . . where space limitations exclude the use of larger motors

3 *satisfy customer demand*

for better electrical equipment

. . . where trouble-free service is required
. . . wherever size and weight are important considerations

Write Today! for your free copy! See how Silicone (Class H) Insulation can be used to increase output by as much as 50%, make motors, transformers and solenoids last 10 to 100 times as long as they ever did before.

Address Dept. DP-11

DOW CORNING CORPORATION (DOW CORNING SILICONES)
MIDLAND, MICHIGAN

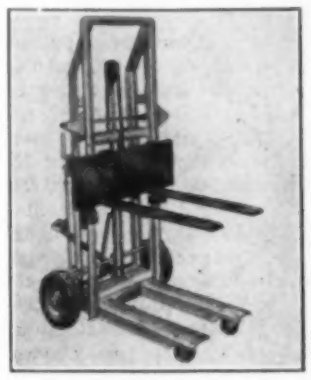
ATLANTA • CHICAGO • CLEVELAND • DALLAS • DETROIT
LOS ANGELES • NEW YORK • WASHINGTON, D. C. (SILVER SPRING, MD.)

In Canada: Fiberglas Canada Ltd., Toronto
In England: Midland Silicones Ltd., London

If you write maker identify as **IEN - 13019**

TRUCK . . Foot hydraulic fork unit lifts half ton load to 53 inches

Source: SAFWAY INDUSTRIAL EQUIPMENT CORP.
182-86 N. Franklin St., Chicago 6, Ill.



For narrow aisles

Foot operated pump supplies pressure in the lift cylinder of this new Model FH-1 fork lift truck to raise a load. A release pedal and wheel lock assures safe one-man operation. The truck is a companion unit to the battery powered assembly previously described IEN-9401-53. It is mounted on 10-in. rubber tired load wheels and 3-in. roller bearing casters. The forks measure 26 in. in length. List price is $250. A platform plate, to apply on the forks, adds $10.

If you write maker identify as **IEN - 13020**

CONDUCTOR . . Stranded copper wire, glass braided and silicone insulated

Source: ESSEX WIRE CORP.
1603 Wall St., Fort Wayne 6, Ind.

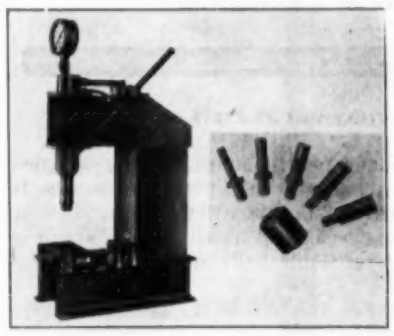
Sample available upon request

Sil-X is a new glass-braid-lacquered wire with General Electric SE-460 silicone rubber insulation. It is Underwriters' Laboratories approved for use in lighting fixtures to 200 deg. C., for electronic hookup wire to 150 deg. C. It is recommended for oil and gas fired furnace control equipment and will be approved for devices and appliances at temperatures to 200 deg. C. when the user applies for this approval. The wire remains flexible in a temperature range between minus 60 and plus 400 deg. F. The insulation is resistant to flex cracking and to attack by fungus.

If you write maker identify as **IEN - 13021**

PRESS . . Hand hydraulic unit mounts on bench, rates 10 ton pressure

Source: MANZEL DIVISION
313-17 Babcock St., Buffalo 10, N. Y.



Gage is optional

New set of six extension inserts is now available with the company's bench type 10-ton arbor press. The inserts permit using the press for bushing removal and replacement as well as for a range of pressing and forcing operations. The press weighs 128 pounds. It is operated by an adjustable handle. Pressure registers in tons on a hydraulic gage at the top.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 13022**

THIS IS LOW COST WELDING!

When a touch on a button moves weldments like these into the correct, most convenient position for a down hand pass, you get more arc time, more welding at lower cost. C-F power operated Positioners rotate the work in a full circle at any point in a range of 135° from the horizontal — giving welders a choice of an infinite number of down-hand welding positions instantly.

Every requirement for faster, better positioned welding — constant or variable speed table rotation, full 135° tilt, self-locking gearing which holds the table in any position, oversize built-in main tilt and rotating bearings, choice of two base styles, and many other features — are built into C-F Positioners.

C-F Positioners are available in Hand or Power operated models, and are made in capacities up to 30,000 lbs. and larger.

Write for the new C-F Positioner Catalog.
CULLEN-FRIESTEDT CO., 1310 S. KILBOURN AVE.
CHICAGO 23, ILLINOIS

CULLEN-FRIESTEDT CO., CHICAGO 23, ILL. — C-F positioned welds more better, more economical welds

If you write maker identify as **IEN - 13023**

FULLER BRUSH makes PROMPT DELIVERY

on stock sizes **FULLANCHOR WIRE WHEEL BRUSHES**

You Deal Directly with us.
Manufactured . . . Guaranteed . . . and Sold by . . .

INDUSTRIAL **Fuller** BRUSH CO. DIVISION

3583 MAIN STREET • HARTFORD 2, CONN.

Power driven brushes, Factory & Institutional cleaning tools, Waxes & Detergents

If you write maker identify as **IEN - 13024**

Simplify any work holding operations with ClampAirs

Whether you want a bulldog grip or a gentle one, you'll find the answer in Schrader ClampAir cylinders. ClampAirs eliminate time-consuming hand clamping and rejects caused by an improper holding force.

Write for more information on how the versatile ClampAir can be used in your plant. Full line catalog gives all the data on Schrader ClampAirs as well as other numerous Schrader Air Control Products.

A. SCHRADER'S SON

458 Vanderbilt Avenue Dept. D-38 Brooklyn 38, N. Y.

If you write maker identify as **IEN - 13025**

MILLIONS OF GALLONS OF LIQUIDS ARE ACCURATELY MEASURED EACH YEAR BY THESE . . .

. . . BOWSER XACTO METERS

Wherever precision measurement is essential to assure constant uniformity of product—control costs, or simplify handling of liquids—there you will usually find Xacto meters on the job.

Right now—in many plants of all types—Bowser Xactos are efficiently handling 662 different liquids.

It will pay you to consult with your nearby Bowser representative.

BOWSER, INC.
1338 Creighton Ave., Fort Wayne 2, Ind.

BOWSER — Regional Offices • Atlanta • Chicago • Cleveland • Dallas • Kansas City • New York • San Francisco • Washington, D. C. • Hamilton, Ontario

If you write maker identify as **IEN - 13026**

New G-E Portable Instrument Cuts Costly Reading Errors

- **Improved Readability**—molded window admits more light to wide 5½-inch scale
- **Easy Hook-up**—rear-set terminals reduce twisting, accept many connector types
- **Sustained Accuracy**—to ½% of full scale
- **Low Prices**—starting at $75.00*

For details on this new d-c instrument line (Type DP-11) contact your Apparatus Sales Office or write for Bulletin GEC-979 to Section 602-269, General Electric, Schenectady 5, N. Y.

*Manufacturer's suggested retail price

If you write maker identify as **IEN - 13027**

Goodbye Elbow Grease!

Use **HAND-I-HACK*** **Portable** **POWER HACK SAW**

TAKE IT EASY—let electricity do your muscle work! Hand-I-Hack eliminates the sweat and fatigue of hack sawing. Plugs into any wall or light socket. Truly portable — can be carried anywhere with one hand. Has swivel vise — operates in any position: horizontally, vertically, at an angle, even upside down. Maximum capacity: 3" x 3" square cut. Uses lower cost standard 10" hand blades — will cut solid bar stock and thin wall tubing, pipe, conduit, cable, rolled forms, etc.

Cutting small diameter brass tubing, using wood block false jaws.

Making a square cut on solid 3" steel bar.

• ***Write for catalog and name of dealer***

*T.M. Reg. U.S. Pat. Off.

Lipe-ROLLWAY CORPORATION
Manufacturers of Automotive Clutches and Machine Tools
812 Emerson Ave., Syracuse 1, N. Y.

If you write maker identify as **IEN - 13028**

NEW DESIGN OF THIS PULLEY LINE GIVES LONGER WEAR IN ANY SERVICE

American All-Steel Conveyor Pulleys in 400 different sizes outlast any other pulley made. End discs and hubs fabricated to insure concentricity. Special welding techniques give extra strength and maximum weld penetration to all joints. Available in four types for all classes of service.

American Steel-Split Pulleys built to run at 6000 feet per minute with an ample factor of safety are available from distributors everywhere. Interchangeable bushings mean quick, tight fit on any shaft. Over 500 sizes. See your distributor or write today for free catalogs.

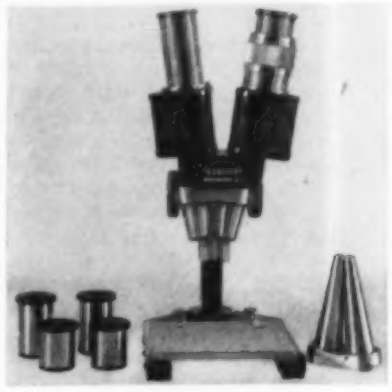
AMERICAN PULLEY CO.
4240 Wissahickon Ave.
Philadelphia 29, Pa.
Gentlemen: Please send full information on _____. No obligation.
Name _____ Title _____
Company _____
Address _____
City _____ Zone ____ State _____

Power Transmission By **AMERICAN** PULLEY COMPANY
"At the PROFIT end of the machine"

If you write maker identify as **IEN - 13029**

MAGNIFYING . . Stereo microscope to inspect, count, check, dissect

Source: EDMUND SCIENTIFIC CORP.
167 E. Gloucester Pike, Barrington, N. J.



Made in Europe

Two sets of paired objectives, 3X and 5X, are supplied with this new No. 70012 microscope to give the user a power range of 15 to 60X. The objectives are interchangeable, sliding in and out on machined surfaces. The stereoscopic vision provides depth with magnification. The image shows right side up and is correct from left to right. **Three sets** of eye-pieces rate 5X, 8X and 12X. Focusing is by means of a rack and pinion. Dimensions overall are 5½ by 4 by 11 inches. The instrument is supplied in a hardwood carrying case. List price is $125.

If you write maker identify as **IEN - 13030**

SEALING . . Plastic compound contains teflon, for pipe line joints

Source: PLASTICS INCORPORATED
Drawer 9, Dept. IEN, Bristol, R. I.

Quarter pound can costs $5

Teflon Pipe Dope is a new semi-fluid compound to apply on pipe threads prior to fitting assembly. The material prevents galling. It seals against leakage in a temperature range from minus 150 to plus 700 deg. F. It does not harden and permits fitting removal when a line is taken down or changed. It can be applied on steel, iron, non-ferrous and non-metallic pipe. It will join glass apparatus and permit easy dismantling.

If you write maker identify as **IEN - 13031**

MARKING . . Pencil type ball pen to replace standard pens and pencils

Source: AMERICAN LEAD PENCIL CO.
Willow Ave. & 5th St., Hoboken, N. J.

Introductory unit 39 cents

Velvet Ball Pen-cil is a new pencil shaped ball pen designed for general use in the place of standard pens and pencils. It is filled at the factory with an ink that will not smear, blot or fade and is approved for checks and legal writing. There is sufficient ink in the non-refillable body to write a quarter million words.

The ink will not dry out on the ball so the pen is ready to write as soon as it touches the writing surface. Two ink colors are red and blue. Packaging is 12 to a box. A single dozen, without clip cap or protector, lists at $3.45. Twelve dozen list at $2.85 per dozen.

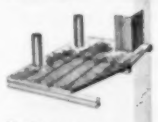
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 13032**

USE THIS NEW SAFETY MATERIAL ALL OVER YOUR PLANT

Work platforms

Flooring



Gutter covers

Partitions

Safety GRIP-STRUT Pat. Pending

NON-SKID—RUGGED—LOW COST

Safety Grip-Strut is a new basic material. All one piece, steel or aluminum, in various sizes and gauges. Sold like lumber, used like lumber and stocked in your storeroom like lumber. Ideal for on-the-job fabricating. Not welded, riveted or expanded. It presents an open space, in a diamond shaped pattern, in excess of 75% of the area for ready access of light and air and gives a positive NON-SKID footing in all directions. Ideal for stair treads, fire escapes, cable trays, work platforms, catwalks, flooring and for original equipment safety treads. Your own mechanics can install it—it's inexpensive, yet permanent and safe.

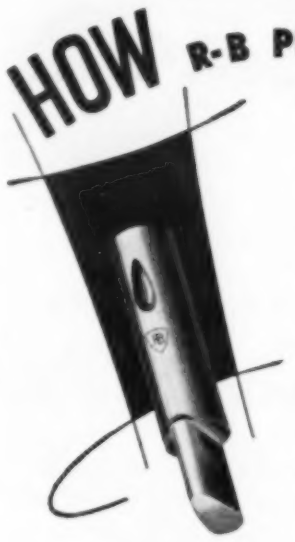
Write today for new catalog showing loadings and methods of easy application in your plant.

Distributors in all principal cities.

GRIP-STRUT division
THE GLOBE COMPANY
Manufacturers since 1914
4010 S. Princeton Ave. • Chicago 9, Ill.

If you write maker identify as **IEN - 13033**

HOW R-B PUNCHES OPERATE



R-B standardized punches and die buttons are inserted in their retainers with a simple push and a twist.

Punches and die buttons are instantly removed by inserting a tanged tool in retainer hole to release the locking ball.

Each R-B retainer is equipped with a spring loaded locking ball which engages the recessed portion of standard and special R-B punches and die buttons. Locked punches and die buttons are always accurately aligned—no additional keying is required.

Use R-B Engineering Service for Your Tough Piercing Problems.

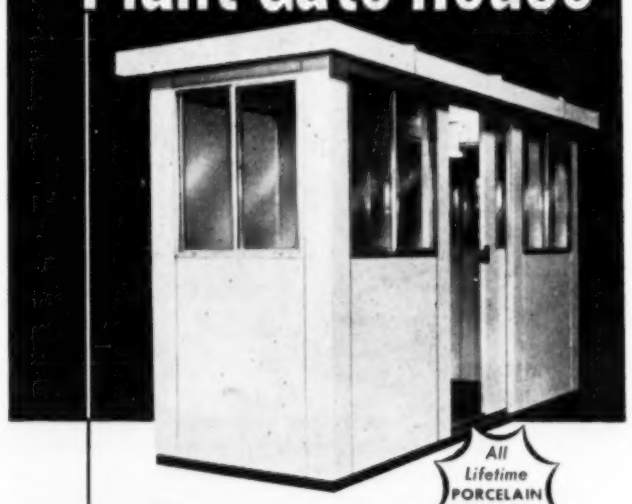
RICHARD BROTHERS PUNCH DIVISION
ALLIED PRODUCTS CORPORATION
DEPT. 76 • 12615 BURT ROAD • DETROIT 23, MICH.

Also Produced in **OTHER ALLIED PLANTS**
SPECIAL COLD FORGED PARTS • STANDARD CAP SCREWS
PRECISION GROUND PARTS • SHEET METAL DIES MADE OF FERROUS ALLOYS, ZINC ALLOYS OR PLASTICS

If you write maker identify as **IEN - 13034**

PREFABRICATED

Plant Gate House



Shipped **Completely Assembled OR IN PANEL SECTIONS FOR** *Quick Erection*

Here is a small all-porcelain enameled steel building designed especially for use as a plant gate house, yard office, scale house or similar uses. Shipped to you fully assembled, it can be installed on your foundation in 3 hours or, it can be shipped knocked-down in panel sections for your erection. This new Erie building features aluminum sliding sash, steel sliding door, fibre glass insulation, metal desks, pull-down stools, installed wiring, lights, etc. Porcelain enamel finish will last a lifetime . . . never need painting, even in smoke-laden atmospheres.

The Erie Gate House is standardized and *shipped from stock.* Many extras including exterior flood lighting, intercom wiring, wall heaters, additional door panels, etc. may be specified.

Write for Descriptive Bulletin and Prices

THE ERIE ENAMELING COMPANY
Engineers • Manufacturers • Erectors
1420 W. 20TH STREET, ERIE, PA.

Erie PORCELAIN **ENAMEL**

If you write maker identify as IEN - 13036

FOR ECONOMICAL BIG VOLUME VENTILATION

BURT MONOVENT

The Burt Monovent Continuous Ridge Ventilator is particularly efficient for heavy industry in steel mills, foundries, forge shops. Installed on any type of roof, it converts the entire roof line into a gigantic exhaust valve that rapidly removes high heat or fumes from the entire structure. Center hinged-type dampers—controlled from floor level—easily adjust the unit.

The Monovent's simple, heavy construction assures long, trouble-free life with minimum maintenance. Standard sizes from 4" to 96" widths handle almost any application. See Sweet's for complete data or write for Bulletin SPV-6.

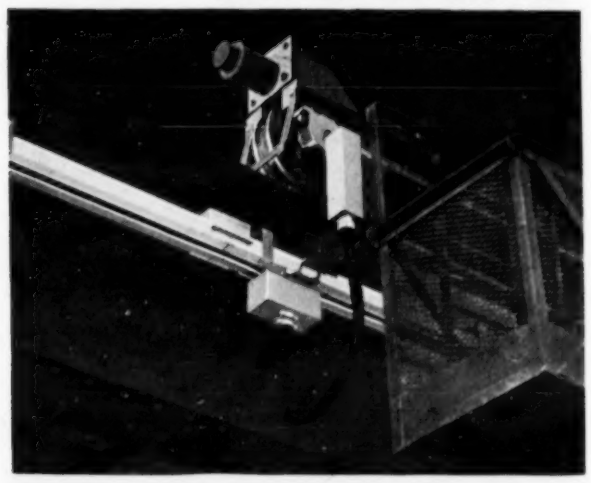
FAN & GRAVITY VENTILATORS • LOUVERS • SHEET METAL SPECIALTIES

The Burt Manufacturing Company

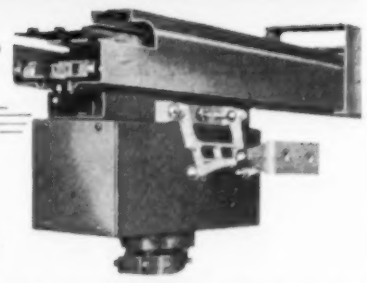
909 S. High St., Akron 11, Ohio

If you write maker identify as IEN - 13037

safe electrification for HEAVY DUTY CRANES and HOISTS



FEEDRAIL® Moving POWER SYSTEMS



Why let Crane and Hoist wiring endanger workers or be a potential hazard to your plant? The new Heavy Duty Feedrail trolley busways give you the *safe* way because:

1. **They're a built-for-the-purpose system, designed and constructed *expressly* for high amperages.**
2. **All current carrying conductors and trolley contacts are protected every inch of the way.**

In addition to giving you maximum safety, Heavy Duty Feedrail will readily fit your specific application requirements. Its standardized components—accurately, ruggedly constructed—make for fast, easy installation. And, you'll find that its low maintenance, long life and continuous dependable service are economy factors in plant operation.

Send for Heavy Duty Feedrail descriptive bulletin. Write Dept. N-11

SOLD BY MORE THAN 1,000 ELECTRICAL DISTRIBUTORS FROM COAST TO COAST

53-2A

Never Becomes Obsolete

FEEDRAIL CORPORATION

Subsidiary of Russell & Stoll Company, Inc.

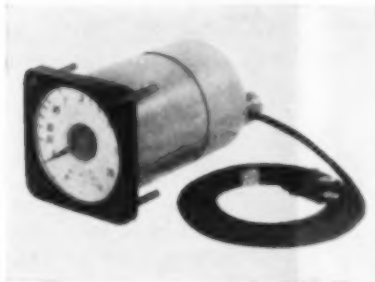
125 BARCLAY STREET · NEW YORK 7, N. Y.

SPECIALLY QUALIFIED REPRESENTATIVES IN PRINCIPAL CITIES

If you write maker identify as IEN - 13039

GAGE . . Molecular vacuum unit for absolute pressure of dry air or gas

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.



No external detectors

Two types are available in this new molecular vacuum gage. One is for dry air to indicate pressures between 0 and 20 millimeters of mercury. The other is provided with a linear scale of 100 uniform divisions for gases other than air. The gage has been designed for use in connection with a range of process and manufacturing operations such as vacuum metallurgy, refrigeration unit and electric tube manufacture, vacuum coating and plating, food and chemical processes, laboratory and research, dehydration of heat sensitive materials, distillation of low boiling compounds, vacuum extraction and solvent recovery. The square face measures about 4¼ inches. Overall length, without the rear connector pipe, is about 6 inches. Operation is on 110-volt ac. Weight is 5 pounds.

Two cylinders are mounted, one inside the other, in the cylindrical housing back of the mounting panel. Both ride on antifriction bearings that require no lubrication during their service life. One of the cylinders is driven by a synchronous motor at 3,600 rpm. The other cylinder is restrained from turning by a spring and is attached to a pointer with a magnetic damping device.

The presence of air or gas between the two cylinders imparts driving action against the spring. The number of molecules for a given volume of gas depends upon the pressure in the vacuum circuit so the resulting motion of the pointer cylinder is a measure of the pressure in the circuit.

If you write maker identify as IEN - 13040

CONVEYING . . Gravity wheel section, aluminum frame, ball bearing wheels

Source: E. W. BUSCHMAN COMPANY
4479 Clifton Ave., Cincinnati 32, Ohio

Bulletin 18

Standard lengths are 5 and 10 ft. in this new gravity wheel equipped aluminum conveyor section. Three widths are 12, 15 and 18 inches. The line includes reversible curved sections for right or left hand turns in 30, 45, 60 and 90-deg. angles. Each is available in any of the three widths. Each turn section is equipped with an outer guard rail and a center supporting leg.

Construction includes frames made of channel and bar stock aluminum reinforced with end plates and tubular cross braces. Ball races are made of steel. The bearings are factory lubricated and protected by dust shields. Both ends of each section are identical. In addition to the wheel design, the conveyor is available with rollers spaced on 2½ to 12-in. centers.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 13041

ELECTRIC and PHOTO-ELECTRIC COUNTERS for every job

Count Anything—Anywhere

Parts, sheets, bottles, cans, boxes, oranges, people, shadows, box-cars — measure lengths of wire, rope, tape, paper, fabric.

Counting Problems Solved

Helping you stop guesswork, save labor, eliminate waste and avoid human error through automatic counting is our business.

Ask your PIC Representative or tell us what you want to accomplish.

Complete Catalog mailed on request

PRODUCTION INSTRUMENT COMPANY
700-10 W. Jackson Blvd., Chicago 6, Ill.

If you write maker identify as IEN - 13042

BALL BUSHING

The BALL BEARING for your

LINEAR MOTIONS

Sliding linear motions are nearly always troublesome. Thousands of progressive engineers have solved this problem by application of the Precision Series A or Low-Cost Series B BALL BUSHINGS.

Alert designers can now make tremendous improvements in their products by using BALL BUSHINGS on guide rods, reciprocating shafts, push-pull actions, or for support of any mechanism that is moved or shifted in a straight line.

Improve your product. Up-date your design and performance with BALL BUSHINGS! Now manufactured for ¼", ½", ¾", 1", 1½", 2" and 2½" shaft diameters.

THOMSON INDUSTRIES, INC.
Dept. I, MANHASSET, NEW YORK

Write for descriptive literature and the name of our representative in your city.

LOW FRICTION • LOW MAINTENANCE
ELIMINATES BINDING AND CHATTER
SOLVES SLIDING LUBRICATION PROBLEMS
LONG LIFE • LASTING ALIGNMENT

Also manufacturers of NYLINED Bearings — DuPont NYLON with in a metal sleeve — for rotation and reciprocation.

PROGRESSIVE MANUFACTURERS USE BALL BUSHINGS—A MAJOR IMPROVEMENT AT A MINOR COST

If you write maker identify as IEN - 13043

MONEY! MINUTES! METAL!

Save all 3 with

B&W Steel Mechanical Tubing

B&W Steel Mechanical Tubing Bulletin shows you how hollowness makes a *saving* difference.

Write for Bulletin TB-352

TA-1806(LM)

THE BABCOCK & WILCOX COMPANY
TUBULAR PRODUCTS DIVISION
Beaver Falls, Pa. — Seamless Tubing, Welded Stainless Steel Tubing
Alliance, Ohio—Welded Carbon Steel Tubing

If you write maker identify as IEN - 13044

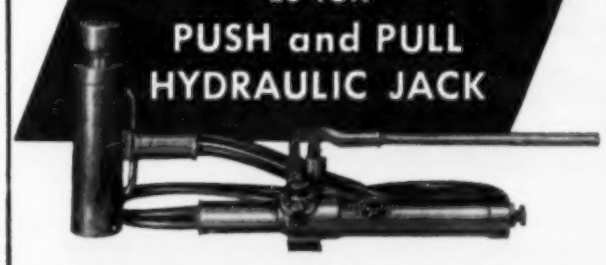
SPEED UP ★ *PRODUCTION* ★ *MATERIALS HANDLING* ★ *MAINTENANCE*

WITH A

HEIN-WERNER

20 TON

PUSH and PULL HYDRAULIC JACK



You'll be amazed at the time and manpower you can save on tough lifting, moving, pressing, ejecting, clamping, or straightening jobs with a Hein-Werner J-20 Hydraulic Jack.

The J-20 can be carried anywhere in the plant . . . set up in seconds . . . easily operated by one man. It will push up to 20 tons or pull 13½ tons. You merely turn a valve from right to left to change the action. Remote control pump works at any angle, in any position, without becoming airbound. Safety valves prevent overloading. Varied attachments are available to adapt the jack perfectly to any type job. Other Hein-Werner models of 4 and 10 ton capacities are also available. See your industrial supply distributor or write us.

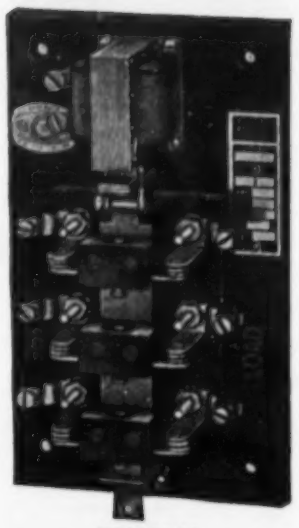
HEIN-WERNER CORPORATION
Waukesha, Wisc.

Hein-Werner HYDRAULIC JACKS

If you write maker identify as IEN - 13045

NEW ZENITH MAGNETIC SOLENOID CONTACTORS

★ SOLENOID OPERATED
★ FINE SILVER CONTACTS
★ SIMPLIFIED WIRING



TYPE SC 33

This ZENITH contactor is built to withstand the severe service demanded by loads based on Type-C lamps.

It is designed on the straight-line principle, with the solenoid being connected directly to the contact bar.

The advantage of this method of construction is its easy access to any part for quick inspection or service, without disturbing other parts.

Models: Size 1 — 25 amps. Size 2 — 50 amps.

Either size can be supplied in any number of poles.

SEND FOR FREE CATALOG

This big, illustrated catalog contains all the newest items in automatic control equipment made by Zenith! Write now for your Copy!

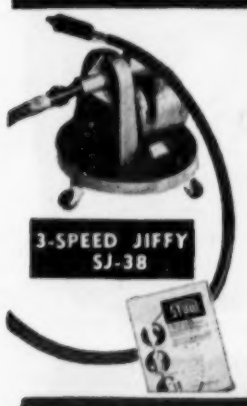
ZENITH ELECTRIC CO.
146 W. WALTON ST., CHICAGO 10, ILLINOIS

If you write maker identify as IEN - 13046

step up production with

Stow STREAMLINER N-40

STOW flexible shaft MACHINES



3-SPEED JIFFY SJ-38

These dependable STOW FLEXIBLE SHAFT MACHINES save production time . . . speed up output . . . help lower production costs. Variable Speed Models shown are easily portable . . . cut down operator fatigue and increase on the job efficiency!

Constant Speed Models available. Also complete line of accessories designed to increase the utility of STOW Flexible Shaft Machines!

WRITE TODAY
for your free copy of Catalog 51

STOW MANUFACTURING CO.
25 Shear St. Binghamton, N. Y.

If you write maker identify as IEN - 13047

PLASTIC SKIN COATINGS
END RUST DAMAGE

Aeroil

PLAST-O-DIP

Protective preservation of all precision machined metal surfaces and parts is achieved in minutes—lasts for years with Aeroil Plast-O-Dip Tanks. Stop costly rust damage this easy way. Tank sizes range from 1 pint to 100 gallons. Mail the coupon below and put an end to storage rust problems.

Get Positive Protection NOW

Aeroil Products Company, Inc.
27 Wesley Street
South Hackensack, N. J.

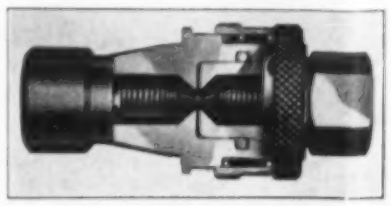
Please rush full free information on Aeroil Plast-O-Dip Tanks to:

Name .....
Company ..... Title .....
Address .....
City ..... State .....

If you write maker identify as IEN - 13048

PIPE FITTING . . Self seal coupling closes on quick line disconnection

Source: HANSEN MFG. CO.
4029-33 W. 150th St., Cleveland 11, Ohio



Available in brass or steel

Hydraulic and pneumatic lines can be quickly connected or disconnected, without loss of fluid, by application of the Series HK coupling to which new ⅛, ¼ and ⅜-in. sizes have been added. Sizes now extend from ⅛ to 1 inch in the overall line.

Each side of the coupling is equipped with a spring backed valve that closes the opening when the coupling is disconnected. The valves are opened, upon reconnection, but not until the male fitting has passed a sealing O-ring so there can be no leakage on the partly connected assembly.

If you write maker identify as IEN - 13049

HEATING . . Electric unit for laboratory flasks to 5,000 ml.

Source: BURRELL CORPORATION
2221-25 Fifth Ave., Pittsburgh 19, Pa.

One year guarantee

Forma-Heater is a new electric unit employing a woven metal-cloth element enclosed in a polished metal housing. Several sizes in the line take flasks from 500 to 5,000-ml. capacity. Each is available in plain design or with a thermostat. Temperature ranges to 1,000 deg. F. on the plain unit and to 600 deg. F. on the regulated design. The assembly includes a clamp to position laboratory apparatus.

If you write maker identify as IEN - 13050

LUBRICATING . . Green powder in liquid carrier for spraying

Source: EVERLUBE COMPANY
4437-B San Fernando Road, Glendale 4, Calif.

Sample lists at $2

New lubricant has been developed to spray, dip or brush on metal parts in production that will be required to operate friction free in service without further lubricating. The material is a green powder. It is carried in a liquid for application. The liquid evaporates to leave the material locked to the part surfaced or penetrated into preparatory surface coatings.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 13051

IT'S LIKED MORE BECAUSE IT DOES MORE

Cuts inside holes without drilling a starting hole.

LESTO *Electric* HAND SAW

Extremely fast for soft and hard wood, soft metal, bone, plastics, hard rubber, cement sheet, pressed wood, etc.

Cuts 2" Wood Beams

RIP
SCROLL
BAND
JIG
CROSSCUT
COPING
KEYHOLE

Write for Literature
Sold and Serviced in Principal Cities Throughout U.S.A.

VICTOR J. KRIEG, Inc.
Exclusive Importer
Dep't. A, 611 Broadway, New York 12, N. Y. GRamercy 7-5757
Some Sales Territories Available

If you write maker identify as IEN - 13052

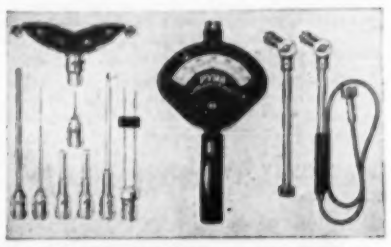
WHY GUESS THE TEMPERATURE . . . when you can see it!

Accurate Temperature at a Glance with the Simplified PYRO OPTICAL PYROMETER

Any operator can quickly determine temperature on minute spots, fast moving objects and smallest streams. Completely self-contained. No calibration charts or accessories needed. An accurate, direct reading Pyrometer that pays for itself by helping prevent spoilage. Weighs 3 lbs. Available in 5 temperature ranges, (1400°F to 7500°F). Ask for free Catalogue No. 85.

The Improved PYRO SURFACE PYROMETER

8 INSTRUMENTS IN ONE
Handles all surface temperature measuring jobs. Has selection of 8 types of thermocouples; all interchangeable in seconds with no recalibration or adjustment. Automatic cold end compensator. Shock, moisture and dust proof. Accurate, big 4¾" indicator. Available in 5 temperature ranges. Ask for FREE Catalogue #168.



THE PYROMETER INSTRUMENT COMPANY
New Plant and laboratory
Bergenfield 21, New Jersey
Manufacturers of Pyro Optical, Radiation Immersion and Surface Pyrometers for over 25 years.

If you write maker identify as IEN - 13053

NEW...A BETTER BLUE M OVEN

New Design . . . for easier operation.
Greater temperature range . . . 37°C. to 288°C.

Power saver . . . The Blue M Power Selector Switch saves you dollars of current per year, by rating input wattage to temperature. A real time saver too . . . with it you can heat the oven quickly, then lower to the wattage necessary to maintain constant temperatures. You don't overshoot or undershoot with a Blue M Oven.

Automatic Hydraulic Thermostat . . . response sensitivity ±½°C . . . keeps temperatures at desired level. U. L. approved.

New Convenience . . . Recessed control panel protects controls from spillage or accidental bumping. All controls are grouped for easy handling.

All Stainless Steel . . . A beautiful practical oven especially resistant to corrosive atmospheres. Dual banked extra heavy duty Modella Elements. All six sides now have 3½" of compressed Fiberglas insulation. Chromed hardware, pressure release latch. Before you buy . . . ask your dealer to show you a Blue M Oven . . . see for yourself how much you get for your money.

SPECIFICATIONS AND PRICES
(All ovens ready for instant use)

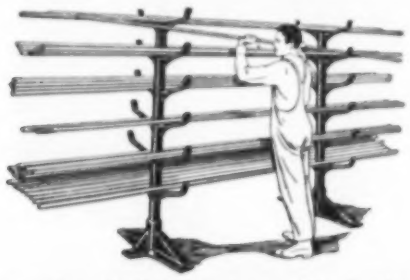
Model	Inside Dim. (inches) W.	D.	H.	Max. temp.	Prices
OV-18SA	19	18	15	288°C.	$275.00
*OV-18A	19	18	15	288°C.	195.00
OV-12	12	12	12	232°C.	137.50
OV-8	8	8	8	204°C.	87.00

*Stainless Steel interior only
(Prices are for 115 Volts 50/60C, AC...230 Volt or DC models $10.00 extra).

BLUE M ELECTRIC COMPANY
306-308 West 69th Street, Chicago, Illinois

If you write maker identify as **IEN - 13055**

for EFFICIENT HANDLING and ORDERLY STORAGE



You save time, both in storing and in issuing, when you use Brown Sectional Racks. Open sides speed handling. Complete visibility permits quick selection to save waiting mechanics time.

Maximum flexibility in arrangement is possible because each Brown Rack is independent and self-contained, need not be bolted to floor. Easily relocated. Systemized storage with Brown Racks promotes good housekeeping, cleanliness.

All iron and steel construction, can't burn, bend, sag or warp. Never wear out.

Get these values now! Write for complete specifications and prices on wide range of models and sizes. Brown Engineering Co., 122 N. Third St., Reading, Pa.

BROWN QUICK-SERVE RACKS

If you write maker identify as **IEN - 13056**

IT'S ALL IN THE HEAT TREATMENT

ORIGINATORS OF SUPER SAFE STEEL STAMPS

The "Tough" head to absorb hammer blows without crushing or distorting — The "SOFT" center to cushion the shock — The "HARD" tip to insure cleaner impressions and a longer lasting stamp make the RICK the better safer stamp. These stamps are made in ANY type to fit ANY holder.

We are also manufacturers of—

- Special branding and knurling wheels
- Engraved plastic molds . . .
- Name stamps . . .
- Designs and trade marks . . .
- Embossing dies . . .
- Various Marking Dies and Tools
- Inspectors Hammers

WRITE TODAY for ADDITIONAL INFORMATION

PITTSBURGH STENCIL and TOOL COMPANY
REEDSDALE and SCOTLAND STREETS
PITTSBURGH 12, PA.

If you write maker identify as **IEN - 13057**

3762 WEST BELMONT AVENUE • CHICAGO 18, ILLINOIS

If you write maker identify as **IEN - 13058**

CLEANING . . Wet strong paper removes oil, dirt from hands and work

Source: SCOTT PAPER CO.
1 Market St., Chester, Pa.

A box for each worker

Patent is pending on a new Perf-Embossed industrial wiping paper that has been developed by the company. It is a highly absorbent material, strong when wet, lint free and in two-ply construction. It is supplied in sheets in a dispenser box as shown in the illustration. Each box holds 125 wipers. There are 18 boxes to a case.

The paper will remove grease, oil, dirt from work pieces and from a worker's hands. It is not abrasive. It is a disposable material to be used once and then thrown away. As a result there is no danger of contamination from previous use or need to launder.

If you write maker identify as **IEN - 13059**

PAINTING . . Emulsion type enamel for metal products, refuses to burn

Source: SHERWIN WILLIAMS COMPANY
103 Prospect Ave., S. W., Cleveland 1, Ohio

Available now in black only

New enamel employs water as an ingredient and as the reducing agent. It is safe to use in metal product finishing since neither it nor the vapors from it will ignite from the liquid state at normal room or operating temperatures. Following application by dip or spray, the coating is air dried for 20 min., then is baked for about 18 min. at 300 deg. F. The resulting film presents a high gloss surface that is hard, resistant to impact, unaffected by oil and insoluble in water.

If you write maker identify as **IEN - 13060**

THERMOMETER . . Adjustable design employs a flexible capillary tube

Source: WEKSLER THERMOMETER CORP.
49 W. 32nd St., Dept. IEN, New York 1, N. Y.

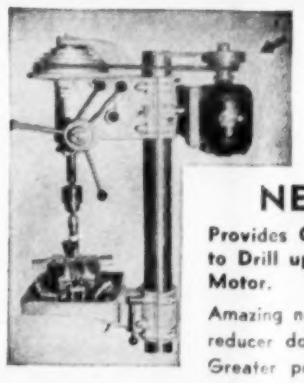
Adjust Angle design

New assembly, with a 5-in. case, has been added to the 7, 9 and 12 in. adjustable thermometers, previously described IEN-3044-53. The temperature sensitive bulb can be positioned at any angle in a 180-deg. arc to the back, front, right or left. A flexible capillary tube connects between the bulb and the thermometer stem. Several ranges are maximum at 750 deg. F.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 13061**

New "PULL-GEAR" SPEED-REDUCING PULLEY Increases Drill Press Capacity



NEW MODEL

Provides Correct Speed and Power to Drill up to 1 3/8" with 1/2 H. P. Motor.

Amazing new internally geared speed reducer doubles drill press capacity. Greater power, greater efficiency, greater productivity.

Provides the correct speed and power for larger drilling, reaming, tapping and boring on light presses. Easily installed in five minutes. Adaptable to all type machines. Spindle speed range approximately 4 to 3000 RPM. Made in 3 motor shaft sizes: 1/2"—5/8"—3/4". Write for literature.

Some Territories Open to Jobbers

THE PULL-GEAR CO.
4118 E. 8 Mile Road Detroit 34, Mich.

WRITE FOR LITERATURE

If you write maker identify as **IEN - 13062**

. . . WHAT'S NEW AT BRISTOL . . . .

Meet the world's simplest instrument system!

TRUE PLUG-IN SERVICE — results in great savings in installation costs; units can be plugged in or out without stopping process or control.

It's Bristol's new METAGRAPHIC pneumatic transmission instrument system for measuring, indicating, recording and controlling pressure, temperature, vacuum, flow, differential pressure and liquid level.

Here are the big advantages:

SIMPLICITY — fewer parts, fewer adjustments, and less service required. Ranges can be changed in seconds.

FLEXIBILITY — units can be combined like building blocks to make any kind of arrangement.

Get the whole METAGRAPHIC story by writing to The Bristol Company, 107 Bristol Road, Waterbury 20, Conn.

BRISTOL *THE DEPENDABLE GUIDEPOST OF INDUSTRY*

AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

If you write maker identify as **IEN - 13063**

SEND FOR THIS NEW BULLETIN

Improved Method Centrifugal SPRAY DRYER *and* CONCENTRATOR*

CONTRACT DRYING

We invite inquiries for Contract Drying in our fully equipped Stainless Steel Plant in Chicago. Shipments can be made direct to our Railroad Switch Track or Truck Docks.

THE DRYING AND CONCENTRATING COMPANY DRYER

Improved method for **DEHYDRATING**

Solutions, emulsions and materials which can be handled in a liquid form including:

Chemicals
Pharmaceuticals
Milk Products
Blood or Blood Plasma
Soups, Vegetables, etc.

This complete spray drying plant employs a unique centrifugal-type spray head, and consists of a Drying Chamber, Concentrator, Air Heating Unit, Air Filter, Air Supply Fan, Powder Cooling Fans and Sanitary Pumps with variable speed drives for handling liquid material and controlling the moisture.

***CONCENTRATOR AVAILABLE SEPARATELY**

The Concentrator can be operated as a separate unit for reducing liquid products to almost any desired degree of concentration, almost instantaneously, retaining natural flavors and vitamins.

Write for New FREE Bulletin 265

DRYING and CONCENTRATING CO.
333 SOUTH MICHIGAN AVENUE, CHICAGO, ILLINOIS

If you write maker identify as **IEN - 13064**

TEMPILSTIKS°

the amazing Crayons that tell temperatures

in
WELDING
FLAME-CUTTING
TEMPERING
FORGING
CASTING
MOLDING
DRAWING
STRAIGHTENING
HEAT-TREATING
IN GENERAL

$2 each

gives up to 2000 readings

it's this simple:

- Select the **Tempilstik°** for your working temperature.
- Mark your workpiece with it.
- The **Tempilstik°** will leave a liquid mark as soon as its specified temperature is reached.

Available in these temperatures (°F)

113	213	313	450	850	1250	1650
125	225	325	500	900	1300	1700
138	238	338	550	950	1350	1750
150	250	350	600	1000	1400	1800
163	263	363	650	1050	1450	1850
175	275	375	700	1100	1500	1900
188	288	388	750	1150	1550	1950
200	300	400	800	1200	1600	2000

Also available in pellet and liquid form.

TEMPIL CORPORATION
11 West 25th St., New York 10, N. Y.

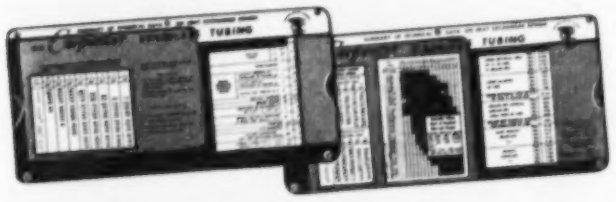
FREE—Tempil° "Basic Guide to Ferrous Metallurgy" —16¼" by 21" plastic-laminated wall chart in color. Send for sample pellets, stating temperature of interest to you.

NAME _____
COMPANY _____
ADDRESS _____

If you write maker identify as IEN - 13065

HEAT ON? TRANSFER IT QUICK *

with this Super Slide Chart

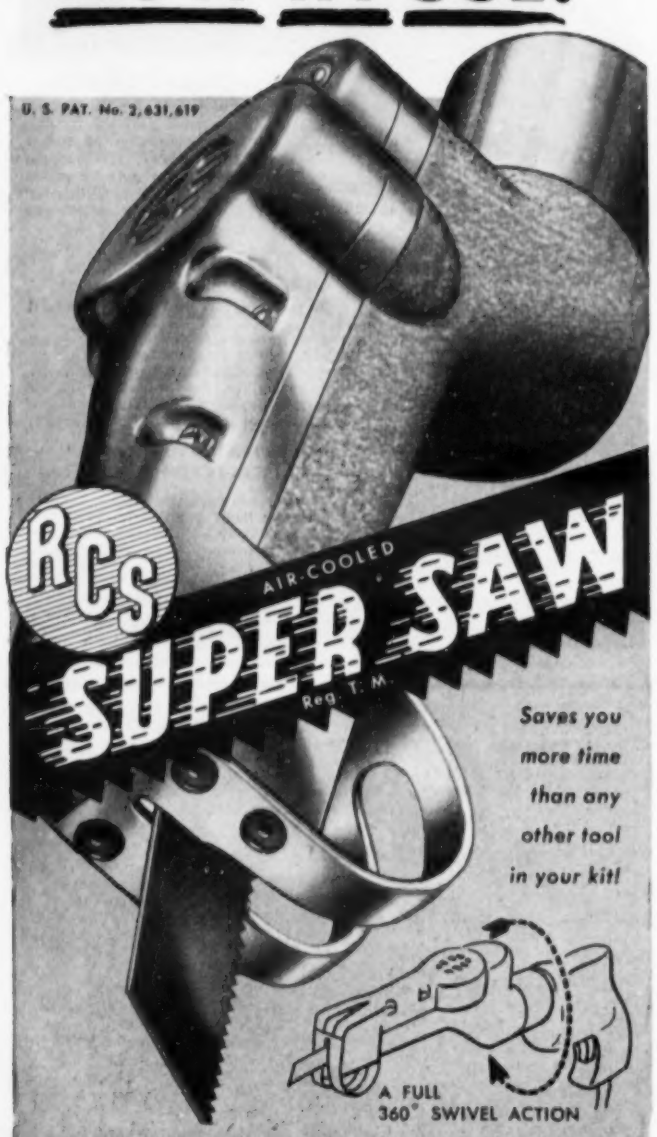


*Get the information you need on physical properties, sizes and gauges, cross-sectional area, velocity constants, pressure, weights and other technical data on Carpenter Stainless Tubing for Heat Exchanger applications. It's all condensed in this handy slide chart. Write for it today, no obligation of course.

THE CARPENTER STEEL COMPANY
Alloy Tube Division, Union, N. J.

If you write maker identify as IEN - 13066

OVER 40,000 NOW IN USE!



A "lifetime" tool with built-in blower, ball and roller bearings, sealed lubrication, etc. Safe—(two-handed operation required). 360° swivel action for maximum versatility. Blades to cut everything including stainless steel. Fits your present ¼" heavy-duty drill.

RCS TOOL SALES CORPORATION
JOLIET, ILLINOIS

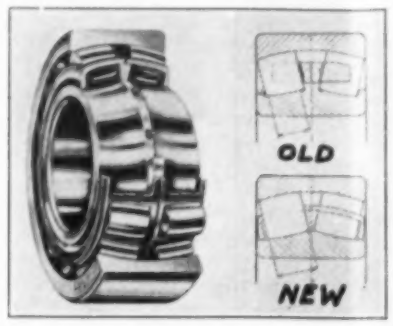
Gentlemen:
Please send us Bulletin H-11 and the name of the nearest Super-Saw distributor:

Name_____
Address_____
City_____ Zone____ State____

If you write maker identify as IEN - 13068

BEARING . . Spherical roller design employs inner race free from flanges

Source: SKF INDUSTRIES INC.
Erie Ave. & Front St., Philadelphia 32, Pa.



Bulletin 365

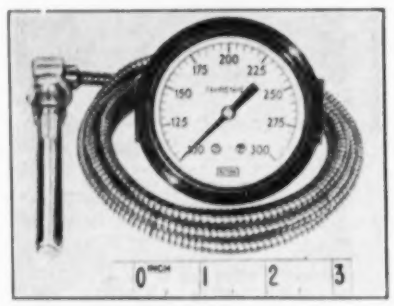
Illustrated is new design of the company's Type-C self-aligning spherical roller bearing. It has eliminated the center and side integral flanges on the inner race, initially developed some years ago. As a result it has been possible to redesign the rollers, the brass cage and the center support ring for materially increased service life over the original design.

Each of the two cages centers on the inner race near the outside edges and on the center ring. This ring permits the rollers to take the position which their contact with the race dictates so load distribution is uniform. The company has prepared literature showing capacity and life comparisons and providing essential specifications and dimension data with a table to assist in bearing selection.

If you write maker identify as IEN - 13069

THERMOMETER . . Miniature dial unit in 2½ in. housing, mercury operated

Source: UNITED STATES GAUGE DIV.
49 Thomas St., Dept. IEN, Sellersville 70, Pa.



Hydrogen welded

Stainless steel tubular spring, five feet of stainless capillary tube and a stainless bulb make up the welded operating element of this new dial type thermometer. The spring is fitted with a bi-metal compensator to balance changes in ambient temperature and is connected to the dial pointer through a corrosion resistant brass movement. The housing is drawn steel and the friction type ring is brass. Both are finished in black baked enamel and the housing carries a mounting clamp.

Accuracy is within 1 per cent of full scale for the middle half of the scale and 2 per cent over the balance. Twenty-two ranges are within overall limits of minus 40 to plus 1,000 deg. F. Seventeen additional ranges are within minus 40 and plus 500 deg. C.

If you write maker identify as IEN - 13070

Compressors that must handle corrosive gases and that cannot be lubricated on the piston rod are made to stand up and operate without rod galling by metallizing the rod with stainless steel. Metallizing Engineering Co., 38-16 30th St., Long Island City 1, N. Y., can tell you about it.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 13071

Clean...Dry...*Slip-Safe* Floors IN JUST 90 SECONDS!

Only HILD has the Shower-feed Brush

Now dirty, slippery factory floors can be scrubbed during working hours...*without interrupting work routines for more than 90 seconds!* HILD Shower-feed Scrubbing speedily loosens stubborn grease and slippery oil accumulations. The HILD Vacuum then *instantly* and *completely* suctions up dirty scrub-soap solution. Floors are left clean, dry and *slip-safe*...without rinsing or mopping. HILD Equipment is designed to reach the danger spots under and around machines.

Write today for FREE CIRCULAR

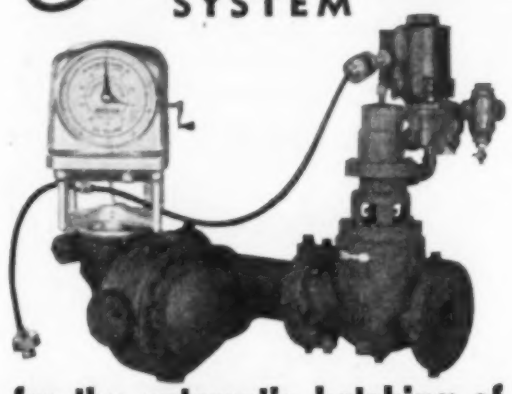
HILD FLOOR MACHINE COMPANY
740 W. Washington Blvd., Dept. IEN-11 Chicago 6, ILL.

Factory Branches: 250 W. 43rd Street, New York 17, N. Y. • 4271 W. Third Street, Los Angeles 5, Calif.

HILD System MAINTENANCE EQUIPMENT & SUPPLIES

If you write maker identify as IEN - 13072

THE *Fluidometer* SYSTEM



for the automatic batching of light or heavy liquids . . . . .

The Fluidometer System is available in either jacketed or unjacketed construction, and is adaptable to practically any liquid measuring problem, whether it involves gallons, barrels or tank cars. The automatic reset, an exclusive feature of Fluidometer, is invaluable in large scale production requiring steady repetition of operations. Send for Bulletin F1-49.

H&B ESTABLISHED 1897

HETHERINGTON & BERNER INC.
725 Kentucky Avenue Indianapolis, Ind.

If you write maker identify as IEN - 13073

extreme flexibility makes this new BECKETT AIR THRUST DRILLING & TAPPING MACHINE

ideal for small lot production on a wide range of work!

Model C-16-T

- Single and multiple tapping *direct* from chuck or any standard drill head without clutch or lead screw. *Exact* thread reproduction in light metals, plastics and high-strength alloys.
- Controlled air-powered thrust provides *correct* drilling and tapping action—completely variable and quickly adjustable approach speed, return speed and working thrust.
- *Quick change-over* from drilling to tapping or allied operations and from light to heavy work.

BECKETT Air Thrust Drilling and Tapping Machine, with electrically controlled "Hi-Cyclic" Air Feed, performs single and multiple tapping without employing a clutch or lead screw. Absolute and precise control of the air thrust at low pressures provides extremely sensitive tapping action. The tap provides its own lead and reproduces a thread with maximum fidelity to the ground tap. A Class 4 fit has been produced in magnesium.

Electrically Controlled

Hi-CYCLIC TM Reg.

Air Thrust
Max. thrust—980 lbs. at 100 p.s.i.
Stroke—4" (6" stroke available)
Capacity—Drill ⅜" in steel; tap 1½" N.C. with 1½ h.p. motor.

This is a rugged, accurate machine, with heavy base, box column and gibbed ways for sliding head and adjustable work table. Available in models for drilling only and for drilling and tapping. Bench and floor types and table multiple units for continuous line production.

You can *triple* your drilling and tapping production—at *great savings*—with the new Beckett Air Thrust Drilling and Tapping Machine. The investment is *low*—and deliveries are *good!*

Write TODAY for complete details and Your Copy of BULLETIN No. 50

BECKETT-HARCUM CO., INC.
1089 Wayne Road, Wilmington, Ohio

If you write maker identify as **IEN - 13075**

NEW THE WELLS MODEL 800 HEAVY-DUTY CUT-OFF SAW

. . . the first metal cut-off Saw designed for use with High Speed Steel Band Saw Blades

THE NEW WELLS MODEL 800, engineered to use blades 1" in width, is a heavy duty, metal cutting band saw designed to bring new accuracy and efficiency to your production cut-off operations.

Model 800 is also the first metal cutting band saw approved for use with high speed steel band saw blades. When used with this type of blade, a higher level of cutting efficiency has been attained in cutting stainless steel, die blocks and other tough metals.

See your Wells dealer for further information or write direct

Wells

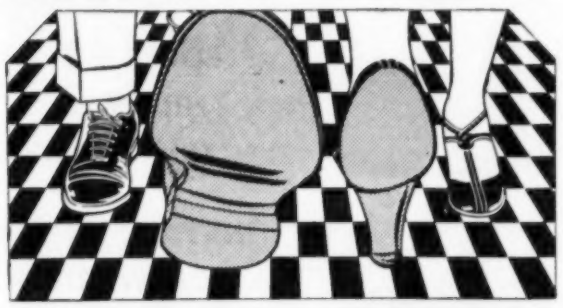
Products by Wells are Practical

METAL CUTTING BAND SAWS

WELLS MANUFACTURING CORPORATION
1111 MADISON ST., THREE RIVERS, MICH.

If you write maker identify as **IEN - 13076**

HAPPY FEET!



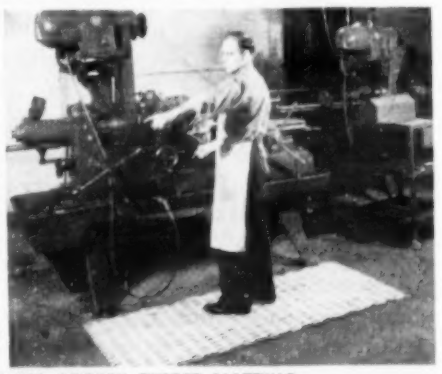
SAFE FEET!

Floor matting prevents slipping—provides comfort—retards fatigue—increases efficiency—reduces breakage.

AMERICAN CORDED RUBBER COUNTER-TRED MATTING

Extremely long wearing.
Applications: Ramps, around machinery, and benches where there is a minimum of oil; in shower and locker rooms. Any length. Width: 2'. Thickness: ⅜".

AMERIFLEX WOOD LINK MATTING



Applications: Around machinery and benches, on oily, wet or greasy floors and in commercial kitchens.

Width: Up to 42". Thickness: ¾". Any length.

DO-ALL CORDED RUBBER MATTING

Applications: Entrances, lobbies, corridors, elevators, offices, ramps, docks, aisles, as traffic directors; around machinery and benches; in commercial kitchens, industrial cafeterias, locker and shower rooms.
Comes in rolls 20' 5". Width: 35". Thickness: ¼". Colors: Mottled Venetian Red, Erin Green, Delft Blue, Mosaic.

TRAFFIC-TRED CORRUGATED PERFORATED MATTING

Applications: Wet floors, entrances, lobbies, corridors, elevators, ramps, docks; in front of benches; commercial kitchens and industrial cafeterias; and as traffic directors.
Rolls of 36' and 60'. Widths: 24", 36", 48". Thickness 7/16".

TUF-TRED RUBBER FABRIC LINK MATTING

Applications: Loading docks or passage-ways where traffic is unusually heavy.
Any length: Width: Up to 6'. Thickness: ⅜".

NEO-CORD OIL & GREASE RESISTANT MATTING

Applications: Around machinery and work benches; commercial kitchens.
Rolls of 36' and 60'. Widths: 24", 36", 48". Thickness: 7/16".

EVER-TRED GREASE-PROOF VINYL PLASTIC LINK MATTING

Applications: Back of counters; commercial kitchens.
Any length. Width: Up to 6'. Thickness: ⅜". Colors: 5 permanently brilliant colors (green, red, brown, black and white) in any combination, any pattern.

EZY-RUG COLORED RUBBER LINK MATTING

Applications: Entrances, lobbies, corridors, elevators and as traffic directors. Any length. Width: Up to 6'. Thickness: ½".

NOTHING INDUSTRY BUYS SAVES MONEY & SERVES IN AS MANY WAYS AS FLOOR MATTING

Send coupon now for free literature and prices.

AMERICAN MAT CORPORATION
1711 ADAMS STREET — TOLEDO 2, OHIO AND WINDSOR, ONTARIO, CANADA

Please send literature and prices on ( ) American Counter-Tred; ( ) Ameriflex; ( ) Do-All; ( ) Traffic-Tred; ( ) Tuf-Tred; ( ) Neo-Cord; ( ) Ever-Tred; ( ) Ezy-Rug.

NAME .....
FIRM .....
STREET .....
CITY & STATE .....
NAME OF SUPPLIER .....

If you write maker identify as **IEN - 13078**

CLEANING . . Portable vacuum machine for wet or dry pickup, mounts on drum

Source: AMERICAN CLEANING EQUIPMENT CORP.
2031 S. Halsted St., Chicago 8, Ill.

Guaranteed for year

Dirt and litter can be removed from floors, water and oils picked up, sumps cleaned out with this new Model 500-55 machine. The vacuum blower and its universal 110-volt motor are assembled in a plate with an inlet connection to mount on a standard 55-gal. drum. The drum is assembled on a caster equipped dolly. The blower delivers through a dust collecting bag supported on a hook on the plate.

Water lift rates 29 in. and air handling capacity is 185 cfm. when the motor operates at 9,500 rpm. and the intake measures 1¼ inches. Lift is 54 in. and air rating is 72 cfm. on a ⅝-in. opening and 11,500 rpm.

If you write maker identify as **IEN - 13079**

VALVE . . Timer actuated, diaphragm operated for boiler blowdown

Source: RICE INDUSTRIES
22-26 Clearview Drive, Pittsburgh 5, Pa.

Intermittent blow-down

New valve and its actuating timer can be installed on a boiler blowdown line to open the valve for predetermined intervals. The timing is set for each installation to provide the most economical action for given water and operating conditions. The valve opens at the predetermined interval and holds open for a set interval. Then it closes without attention on the part of the boiler room operators. Four sizes, from ¾ to 1½ in., are available for 150 and 300-lb. pressure. Three sizes, from ½ to 1 in., are supplied for 600 pounds.

If you write maker identify as **IEN - 13080**

CUTTING . . Adjustable hole saw for use in plastics, steel, or wood

Source: ERWOOD INCORPORATED
1768-72 W. Berteau Ave., Chicago 13, Ill.

Half inch shank

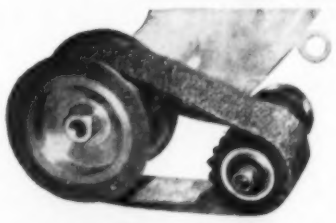
Three cutting blades are mounted for radial adjustment, upon turning a calibrated dial, in this new Dial Saw. The blades can be set to cut a hole measuring 1⅛ to 2½ in. in diameter. The setting will hold against change until the operator turns the dial. The blades are interchangeable in two sets to cut wood or metal. Both sets are supplied. List price is about $13.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 13081**

A PAID NEWS ADVERTISEMENT BY CARBORUNDUM CO.

PORT-A-BELT Grinding . . . Cuts finishing time 90% on aluminum castings



A finishing operation on aluminum castings, which formerly required 30 minutes per casting, is now done in 3 minutes with CARBORUNDUM's abrasive belts and "Port-A-Belt" Grinding Attachment. Ten times as many castings are finished per hour. Of course this 90% saving in time is an outstanding example of "Port-A-Belt" economy. But you may well be surprised at the savings you can make with this tool, which "brings the abrasive tool to the work."

To help you cut production time and costs, four models of the "Port-A-Belt" Attachment are available. Used with long-life abrasive belts from the complete line by CARBORUNDUM, these new grinding tools bring the versatility and economy of belt grinding to such jobs as cleaning and finishing castings, grinding small-radius die and mold areas, contours, welds, edges, etc.

All four models fit nearly all standard make horizontal-spindle portable-grinders—air or electric. They offer the high cutting rate and long belt life made possible by the serrated surface of the "61" contact Wheel. They are light, easy-to-handle—yet sturdy, with nothing to get out of adjustment.

Get full details on "Port-A-Belt" Grinding Attachments and abrasive belts from your CARBORUNDUM distributor or salesman. Or write to us at Dept. IEN 82-319.

"Carborundum" and "Port-A-Belt" are trademarks of The Carborundum Company, Niagara Falls, New York

82-319

THE CARBORUNDUM COMPANY
Niagara Falls, New York

If you write maker identify as **IEN - 13082**

Easy wire-pulling

with New G-E WHITE rigid conduit

New G-E WHITE rigid steel conduit features easy wire-pulling, easy bending, and improved corrosion protection. This new conduit is lined with a protective coating containing an anti-friction agent that speeds wire-pulling. The exterior is protected by the "metallizing" process, which bonds a controlled, uniform coating of pure zinc to the conduit, threads and all, without hardening it. Try new G-E-WHITE conduit on your next job. Section C30-1142, Construction Materials Division, General Electric Company, Bridgeport 2, Connecticut.

New G-E WHITE

You can put your confidence in—

GENERAL ELECTRIC

If you write maker identify as **IEN - 13083**

NOW . . .

Photo-exact copies on ordinary paper

The Kodak Verifax Printer is sensationally different . . . lets you make 3 copies of a letter in 1 minute. And you make your copies on ordinary paper instead of on specially treated papers . . . using only one sheet of sensitized Verifax Matrix Paper.

As a result, you can copy letters, charts, records *faster, more economically*—3 copies of a letter cost less than 4 cents apiece.

The only equipment needed is the typewriter-size Verifax Printer shown above. *It's designed for every office* . . . can be placed where the paper work is heaviest . . . operated by *anyone* under present lighting. *And it's priced for every office—only $240* . . . quickly pays for itself by eliminating costly retyping, proofreading . . . and enabling you to dispatch legible black-on-white copies immediately.

Verifax copying saves wherever there's paper work

No other process is as handy as Verifax copying. It will pay you to mail this coupon today for free booklet giving full details.

Eastman Kodak Company
Industrial Photographic Division
Rochester 4, N. Y. 69

Gentlemen: Please send free Verifax booklet and names of near-by dealers.

Name _____
Company _____
Address _____
City _____ State _____

Price quoted is subject to change without notice.

Kodak

If you write maker identify as IEN - 13085

IMPROVED TURNBUCKLES

have

NEW EYE DESIGN

HEX ENDS

Laughlin's exclusive pear shaped turnbuckle eyes were designed to eliminate need for special shapes. It's the only eye that will take the ear of a shackle one size smaller than the turnbuckle. The shape makes it stronger than a round eye. It looks better and works better. The next time you need turnbuckles order Laughlin and see for yourself.

All Laughlin turnbuckles have hexagon ends and rugged reins. Easily adjusted with a wrench. Wheelabrated finish dipped in a rust preventive or hot dip galvanized.

The Full Line of Wire Rope & Chain Fittings

LAUGHLIN

THE THOMAS LAUGHLIN CO.
111 Fore St., Portland, Me.

If you write maker identify as IEN - 13086

"NOW YOU CAN MAKE DRY PHOTOCOPIES IN ANY COLOR"

RIGHT IN YOUR OWN OFFICE INSTANTLY!

"COLOR-CODE" YOUR PHOTOCOPIES!

Increase office efficiency with copies in any color for immediate recognition, faster filing, speedier handling.

ALL ELECTRIC
APECO *Auto-Stat*
SYSTEMATIC

Makes photo-exact copies of anything typed, written, printed, drawn or photographed in any color or black and white.

Now make photocopies in color! The amazing Apeco Systematic Auto-Stat makes a dry photocopy in red, blue, green, yellow or any other color—including black and white—in less than 45 seconds. Now—"color-code" orders, invoices, letters, etc.—speed up order filling and office procedure—save filing time! This lightning-fast copying machine prints from any original up to 11" wide, any length, whether printed on one or two sides opaque or translucent paper . . . all automatically. Finished copies are ready for instant use. Save up to 80% on copying cost by eliminating costly re-typing, hand copying, checking and outside copying service. Offers even greater savings in increased business efficiency.

PRE-PRINTED COPIES FOR SYSTEMS USE

Methods experts acclaim new pre-printed Auto-Stat copy system offering simplified office record procedure tailor-made to your particular needs.

SO LOW COST! A complete Apeco Systematic Auto-Stat installation is priced well within the budget of even the smallest firm.

HAVE YOU READ THIS FREE BOOK?

American Photocopy Equipment Co. Dept. IEN-11
2849 N. Clark St., Chicago 14, Ill.

Please rush me, without obligation, your factual book on "29 ways to save time and money" and the Apeco Auto-Stat story. I understand this free booklet pictures and tells how I can use Apeco Auto-Stat in my office

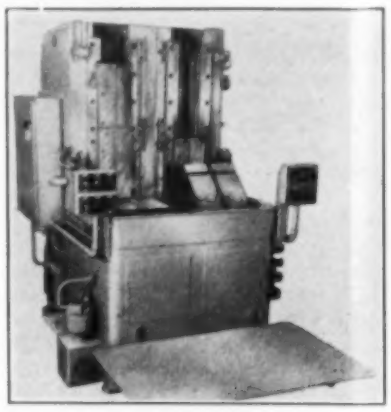
Name_____
Firm_____
Address_____
City_____ Zone____ State_____

In Canada: Apeco of Canada, Ltd., 134 Park Lawn Rd., Toronto 14, Ontario

If you write maker identify as IEN - 13088

BROACHING . . Dual ram machine, 30 in. hydraulic stroke, 4 ton rating

Source: AMERICAN BROACH & MACHINE CO.
315 W. Huron St., Ann Arbor, Mich.



Bulletin 300

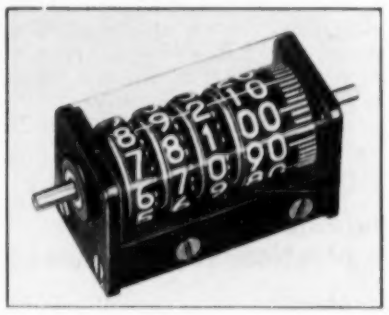
The light rating and relatively short stroke of this new Type SBD-30-4 vertical machine make it suitable to surface broach small parts at high production rates. The tilting work tables, that are provided in front of the broach slides, assist in loading and unloading the work while the machine is operating on either an automatic or semi-automatic cycle.

The machine table stands 50 in. above the floor line. Overall height is about 111 inches. Floor space measures 57 by 140 inches. Weight is 15,000 pounds. The broaching speed can be set between 12 and 28 fpm. Drive is by a 10-hp. motor operating at 1,200 rpm. Controls center at safety pushbutton stations at the front corners of the table. The work tables are hydraulically operated.

If you write maker identify as IEN - 13089

COUNTING . . Wheel type indicator for servo drive, registers increments

Source: DURANT MFG. CO.
1930 N. Buffum St., Milwaukee 1, Wis.



For specified use

Count readings, to 90,000 increments of movement per min., can be read on this new high speed counter. Its number wheel assembly includes a double-unit wheel with fifty graduations that pass under a white indicator line etched on the inside of the wrap-around lucite cover.

The figures are white on a black background. They stand $\frac{3}{16}$ in. in height. The metal parts are corrosion proof. The shaft is stainless steel. The working parts are hardened steel. Mounting is through four holes in the base.

If you write maker identify as IEN - 13090

Permanent magnet pulley, 42 in. in diameter, to take a 36-in. conveyor belt, has been built by Homer Mfg. Co., 434-38 N. Main St., Lima, Ohio. It is being used at the delivery end of a conveyor handling bauxite ore. The pulley rotates at 27 rpm. for a belt speed of 300 fpm. It removes tramp iron from 600 ton of the ore per hour.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 13091

A PAID NEWS ADVERTISEMENT BY MATHEWSON MACHINE WORKS

NEW ADJUSTABLE DRILL JIG eliminates layout; cuts drilling time

Used for drilling holes through round stock and hex stock from ¼" to 2" and cap screws from ¼" to 1¼", the new Mathewson Adjustable Drill Jig eliminates layout and can cut drilling time on small lots to a fraction. And it eliminates the costs of special jigs for larger quantities. Holes for cotter pins, set screws, drive pins for bayonet joints, oil holes in tubular sections, and wiring holes in cap screws, are typical of the operations that can be done more economically with this jig. Hole diameters range from .052" to .531", using your A.S.A. standard slip bushings. The hardened V block has two 60-degree V's for centering round or hexagonal stock, one for ¼" to $\frac{21}{32}$" diameter, one for $\frac{21}{32}$" to 2" diameter. Adjustable stock for locating work longitudinally for drilling any distance from end, may be used on either side. Adjustable bushing carries hold slip bushings and clamp work securely. Jig highly successful in permitting use of inexperienced drill operators. For circular write to: **Mathewson Machine Works,** 26 Hancock Street, Quincy, Mass.

If you write maker identify as IEN - 13092

Send for this *Free* SAMPLE FOLDER...

Contains 25 different test samples of high-dielectric Insulating Tubing & Sleeving

Includes samples and descriptions of - - - - Varglas Silicone • Permafil-Impregnated Varglas Tubing • Varglas Tubing and Sleeving • Varglas Non-Fray Sleeving • Varflo Tubing and Sleeving • Varflex Tubing and Sleeving • Syntholvar Extruded Tubing

Write today!

VARFLEX CORPORATION
306 Jay St. Rome, N.Y.

If you write maker identify as IEN - 13093

TWO NEW FITTINGS

COUPLING

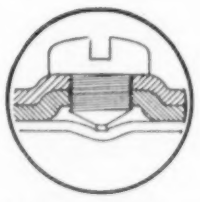
CONNECTOR

FOR E.M.T. THIN-WALL ELECTRIC CONDUIT

INSTALL WITH A SCREWDRIVER

VIBRATION PROOF!

HOW IT WORKS:



Unusual holding action of the screw is obtained when the screw is driven home to rest on the boss and the tip of the screw becomes embedded in the tubing wall. The connection is a vibration proof bond that cannot be broken or loosened except by releasing the screw.

Contact of the screw in the tubing wall performs a safe, permanent ground. Inspection is quick and easy. The rustproof finish of electro-galvanizing is full protection against destructive elements. Sizes are for ½, ¾ and 1 inch standard E.M.T. thinwall electrical conduit.

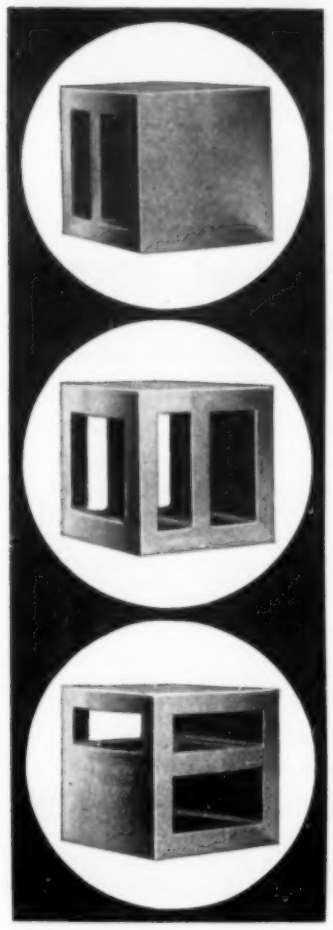
ADVANTAGES:

- RE-USABLE
- ECONOMICAL
- EASY TO INSPECT
- UNIFORM, SAFE HOLDING ACTION
- CLOSE, ACCURATE FIT
- SIMPLE, STRONG, PRESSED-STEEL CONSTRUCTION
- NO WRENCH STRAIN ON BOXES
- APPROVED BY UNDERWRITERS' LABORATORIES, INC. FOR CONCRETE TIGHTNESS

ASK FOR BULLETIN 581

National Electric Products Corp.
140 Stanwix St. Pittsburgh 22, Pa.

If you write maker identify as IEN - 13095



3 IN 1

COMBINATION TOOL

CHALLENGE UNIVERSAL BOX ANGLE

This new versatile tool has the clamping facilities of an *angle iron* . . . the stability, balance and accuracy of a *box parallel* . . . the perpendicular flat surface of an angle plate. Made of high grade special analysis semi-steel, heat treated and precision ground. Furnished in two sizes — 6x6x6 and 8x8x8 inches. Other sizes can be made to order.

747

Challenge TRADE-MARK ®

THE CHALLENGE MACHINERY COMPANY

Office, Factories and Show Room: Grand Haven, Mich.

If you write maker identify as IEN - 13096

today's "wonder drug" for industry

NOW...the greatest cost-saving, labor-saving finishing development in a decade!

Supersheen Speed Finishing eliminates to a great extent previous time-consuming operations like filing, grinding, blasting, buffing — GIVES YOU ALMOST UNBELIEVABLE COST REDUCTIONS!

It does away with costly hand deburring, and other hand operations requiring the use of large quantities of expensive materials and extremely costly skilled labor.

Nearly all types of metal parts—FERROUS OR NON-FERROUS can be simultaneously finished by the SUPERSHEEN process to absolute micro-exactness. Parts now being successfully SUPERSHEENED range in size from very small to large parts, such as jet engine blades and large gears.

SUPERSHEEN SPEED FINISHING is used by hundreds of corporations, from the very small to the world's largest. Among them — GENERAL MOTORS CORPORATION, TIMKEN ROLLER BEARING CORPORATION, EASTMAN KODAK CO.

It will pay you to write for complete facts on the SUPERSHEEN process.

New FREE 52-PAGE CATALOG

52 pages of facts, figures and "before and after" photos—tell the COMPLETE story of Supersheen Speed Finishing. GUARANTEED TO OPEN YOUR EYES TO BIGGER SAVINGS THAN YOU EVER THOUGHT POSSIBLE!

Get your FREE copy today. Write Dept G-11

ALMCO Supersheen

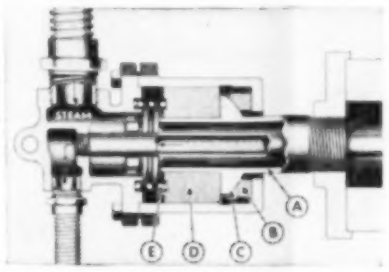
AMERICA'S LARGEST MANUFACTURER OF ADVANCED BARREL FINISHING EQUIPMENT—MATERIALS AND COMPOUNDS

ALBERT LEA, MINNESOTA

If you write maker identify as IEN - 13098

PIPE FITTING . . Rotary joint to make stationary-rotating connection

Source: JOHNSON CORPORATION
805 Wood St., Three Rivers, Mich.



To 450 deg. F.

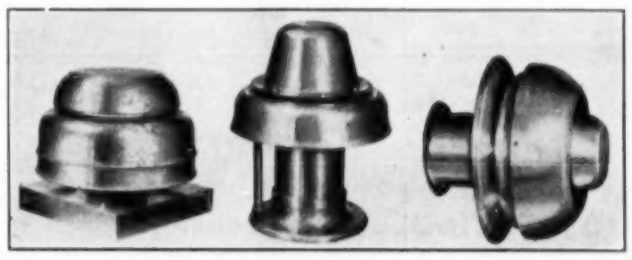
Pressure rating, to 150 or to 250 lb., can be specified for this new design of the Type-S rotary pipe joint, previously described IEN-10142-51. The new assembly is self-supporting, free to move axially with the equipment on which it mounts. Inlet and outlet connections are intended for flexible hose so there is no resistance to movement at these points. Head lugs are provided for stop rods to prevent the joint from turning and to free the hose connections from tension. Two designs include the syphon type illustrated and a single-flow assembly.

The nipple A, extending to the right of the housing, threads into the rotating connection. It carries a graphite seal ring B inside the housing to bear against the shoulder C which is part of the nipple. Back of this shoulder, filling the housing and surrounding the nipple, is a graphite guide D. To its left is a spring E to provide initial sealing pressure until pressure in the medium handled takes over the sealing function. A syphon pipe extends through the center of the assembly illustrated to exhaust condensate or other fluid from the equipment interior.

If you write maker identify as IEN - 13099

VENTILATING . . Exhaust blowers for wall and for ceiling installation

Source: LOREN COOK COMPANY
662-66 Front St., Dept. IEN, Berea, Ohio



Impeller will not overload

Model W, Model R and Model BV are three new exhaust ventilators employing aluminum housings and motor driven aluminum impellers for wall and ceiling installation to serve small areas. Model W can be fitted to a short 6 or 8-in. duct. It is available in 7, 9 and 10-in. sizes with its 110-volt ac. motor in a separate compartment from the air stream. It is regularly equipped with back draft damper and intake grille.

Model R, also in 7, 9 and 10-in. sizes, is fitted with a collar to apply over a 6 or 8-in. duct leading to a roof. Its motor and impeller are similar to those in Model W.

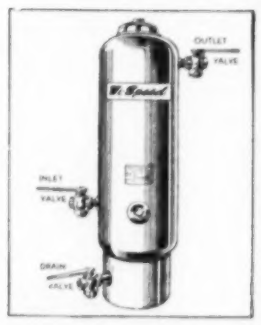
Model BV is made with a 9, 10, 12 or 14-in. impeller and a 110 or 220-volt single or two-speed motor. The motor is mounted on rubber vibration isolators. A back draft damper can be specified.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 13100

A PAID NEWS ADVERTISEMENT BY VAN PRODUCTS CO.

DRY, CLEAN, compressed air (AT VERY LOW COST) rendered by unique Dehumidifier-Filter



At sharply reduced costs, the Vi-Speed Dehumidifier-Filter renders compressed air thoroughly dry, clean and safe for 99% of industrial uses. The low cost and high quality result from a uniquely simplified process that uses "Dryolite," a non-corrosive, metal-preservative drying agent to remove entrained contaminants.

This simplified technique has no complex elements that need to be heated or regenerated. No metal, fabric or ceramic screens to clean or renew. No mechanism to corrode, wear, adjust, replace or cause sparks. No maintenance. No downtime. No large investment is needed.

The Vi-Speed cleanses thoroughly. The purging cycle begins with the air sweeping through a centrifugal mist atomized from solution of "Dryolite." Bulk water-oils-solids drop readily to residue pool. Partially washed air continues in upward surge through a "Dryolite"-impregnated baffle system to remove trace vapors. Air returns to line dry, clean with safely low dew point.

Made in three sizes, Vi-Speed models have range of 25 to 200 c.f.f.a.m. at 100 p.s.i.; operate effectively at 100 deg. F. to below freezing. Heavy steel housing exceeds A.S.M.E. standards. Overall heights, 29 to 43 in. Price range, approx. $97 to $346. Operation cost- 40¢ to $3.00 monthly. Ask for illustrated brochure, "Moisture Control by Vi-Speed." (Van Products also manufactures air-powered bench and machine vises and presses.)

VAN PRODUCTS CO., Mfrs.
3783 West 12th Street Lakewood, Erie, Pa.

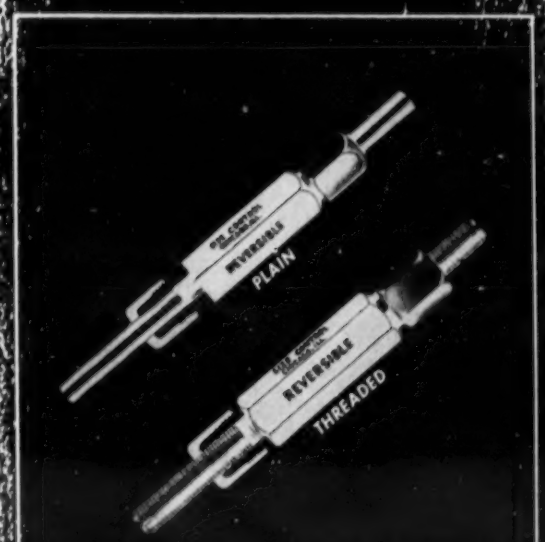
If you write maker identify as IEN - 13101

MERRILL MATERIALS HANDLING DEVICES

3-M-2

MERRILL BROTHERS
56-14 ARNOLD AVENUE MASPETH, N. Y.

If you write maker identify as IEN - 13102



SIZE CONTROL REVERSIBLE GAGES

. . . give you 5 or more gages for the price of one—*reversible* and extra length for new gaging surfaces at no additional cost.

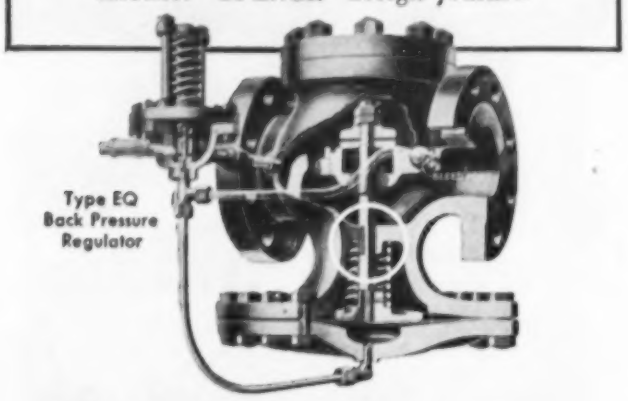
THREAD REVERSIBLES
PLAIN REVERSIBLES
Complete details in catalog 53

SIZE CONTROL CO.
2500 W. Washington Boulevard
Chicago 12, Ill. • MOnroe 6-6710

Division of
AMERICAN GAGE and MACHINE CO.
SIMPSON ELECTRIC COMPANY SIZE CONTROL COMPANY
WALSH PRESS & DIE COMPANY

If you write maker identify as IEN - 13104

another SPENCE *design feature*



No Stuffing Boxes..

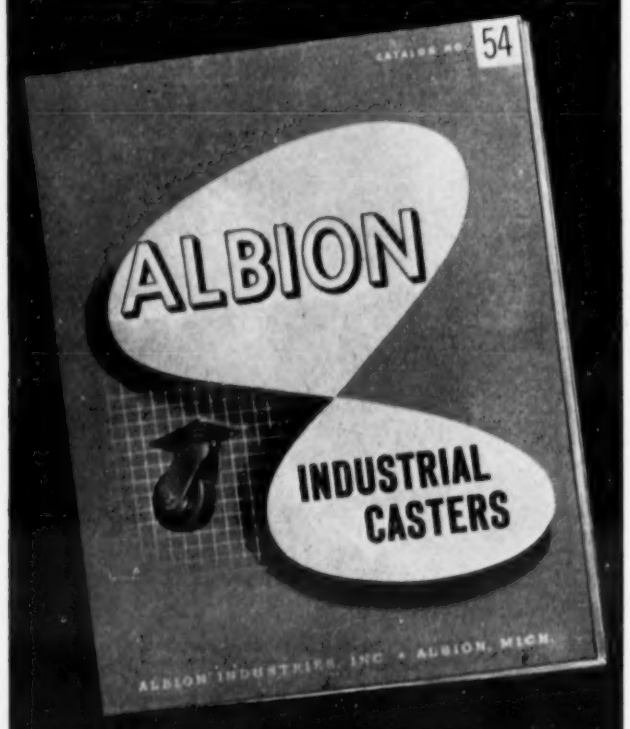
In Spence regulators all main valves and most pilots are built without stuffing boxes. This packless construction is made possible by the use of a large balanced metal diaphragm which eliminates the need for closely fitted parts. Result? More accurate regulation. • Valve stem wear is also reduced in the Spence packless design. Result? Low maintenance, years of trouble-free service • Write for Bulletin 500 giving full details of complete Spence line of automatic regulating valves.

SE-125

SPENCE ENGINEERING COMPANY, INC.
WALDEN, NEW YORK

If you write maker identify as IEN - 13105

it's Yours



FOR THE ASKING...

• Albion's big new '54 Catalog of Industrial Casters and Wheels. 24 pages of the latest, most modern casters and wheels ever developed for industrial users. Detailed illustrations and complete specifications, plus many helpful cost-cutting suggestions to help you solve your materials handling problems more economically.

Write today... for your own copy of this brand new '54 Albion Catalog. It's yours for the asking!

ai

Gentlemen...please rush me a copy of your new '54 Catalog of Industrial Casters and Wheels.

NAME _____
FIRM _____
ADDRESS _____
CITY _____ STATE _____

ALBION INDUSTRIES, INC.
803 North Clark Street • Albion, Michigan

If you write maker identify as IEN - 13107

SCAFFOLD .. Clamp type fittings assemble pipe to build a structure

Source: KEE KLAMPS
Box 99-A, Hamilton, Ohio

Made in England

Railings, shelving, racks, structural supports, fixtures, equipment frames, table supports can be constructed quickly using standard pipe and the new Kee-Klamp iron fittings. Sixteen of the most popular types of fitting are available from stock. Four sizes, in each type, range from ¾ to 1½-in. The fittings are available in black iron or with galvanized finish. Each carries cup point socket head set screws with which the pipe is clamped in place in the main runs and the side outlets. The popular types are shown and detailed in a four page bulletin, "Modern Pipe Construction".

If you write maker identify as IEN - 13108

ADHESIVE .. Latex base liquid secures sandpaper to rotating discs

Source: ADHESIVE PRODUCTS CORP.
1660 Boone Ave., Dept. IEN, New York 60, N. Y.

List is $3.40 per gallon

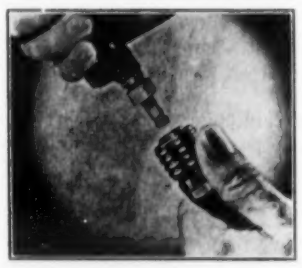
Griptex 994 is a new heat resistant adhesive with which one or several layers of sandpaper can be secured to rotating discs made of metal or wood. When one thickness of sandpaper wears out another can be secured on top of it until six or eight have accumulated. Then all six can be removed at once for a new start.

The adhesive is a non-flammable latex base liquid. It is applied on the disc and the sandpaper back and allowed to dry for an interval prior to bringing the two surfaces together. It does not become sticky or gummy when heated by the sanding operation. List price is 41 cents per lb. or $3.40 per gal. in 5-gal. cans.

If you write maker identify as IEN - 13109

HOSE FITTING .. Swivel coupler for paint spray guns and air tools

Source: BINKS MFG. CO.
3122 Carroll Ave., Chicago 12, Ill.

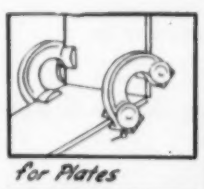


Air hose sizes

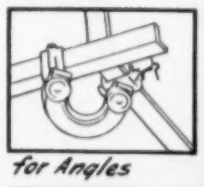
Type Q-D is a new quick-acting coupler particularly for use on air lines to paint spray guns. Its two assembly parts push together. A collar completes the connection. This collar is retracted to permit quick disconnection. The coupler makes it possible to rotate an air tool without kinking the hose line. It restricts air flow by only 5 per cent.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

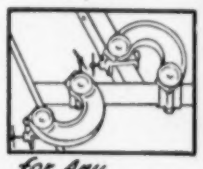
If you write maker identify as IEN - 13110



for Plates



for Angles



for Any Combination

Make fitting • positioning • holding and welding a one-man job • Handles plates, rods, bars, angles, tubes.

TWO SIZES FIT ALL NEEDS

WRITE FOR BULLETIN PCB6

	MODEL A	MODEL B
Length	8 in.	11½ in.
Width	5½ in.	6½ in.
Weight	5½ lbs.	11½ lbs.
Jaw Capacity (Thickness of Work)	1 in.	2½ in.
Diam. Pressure Screws	7/16 in.	⅝ in.
Price	$10.50	$17.50

Mfd. & Ptd. By
BERNARD WELDING & EQUIPMENT CO.
Pioneer for Modern Welding
10220 AVENUE N CHICAGO 17, ILLINOIS

If you write maker identify as IEN - 13111

Better than 6 to 1 INCREASE IN PRODUCTION!

PIVOT HIGH SPEED STEEL PUNCHES
STRAIGHTGROUND • WHIPSLEEVED

• Punching two 11/32 holes in the vertex of 3/16-inch hot rolled angle stock resulted in ordinary punches breaking at 1 to 1200 pieces at the New Holland Machine Co. Division of Sperry Corp.

Mr. Newswanger, Tooling Foreman says
"Since installing Pivot Punches we are getting runs of 7500 without breaking a single punch. We have also experienced longer punch life with Pivot Punches on other die sets."

PUT PIVOT PUNCH TO WORK FOR YOU

Write for FREE catalog and standard prices. Dept. I.N.

tondra-treated FOR EXTREME HARDNESS

pivot punch and die corp.
NORTH TONAWANDA, N. Y.

If you write maker identify as IEN - 13112

Expert advice on

VERTICAL PARKING by Automatic Elevators

Charles W. Lerch's book on "Vertical Parking" offers a solution to this present day problem in congested cities. Mr. Lerch's years of experience in vertical transportation is used to definite value in pertinent suggestions.

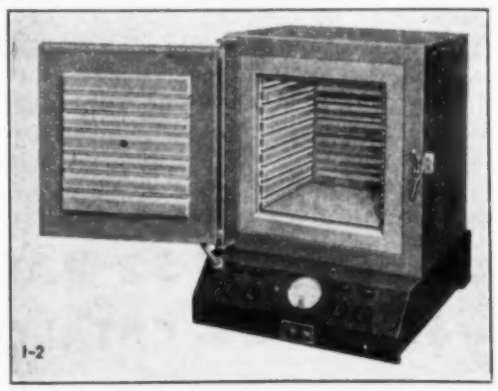
Also Mr. Lerch's brochure on "Elevator Dollars at Work" gives tested data on more efficient operation of elevators in office buildings.

Send on your letterhead for either or both books

Charles W. Lerch & Associates
1172 Board of Trade Building • Chicago 4

If you write maker identify as IEN - 13113

Dyna-Trol Electric Furnace



Infinite **TEMPERATURE CONTROL**
UP TO 2000° F. & 2300° F.
ZONE Temperature CONTROL — Temperature INDICATION

SEMI-AUTOMATIC
- Maintain Temperatures Accurately
- Duplicate Production Time-Temperature Cycles
- Duplicate Temperature Gradients by Zone Control
- Zone Temperature Indication by Pyrometer Selector Switch

AUTOMATIC
- Semi-Automatic Control Features Combined with Fully Automatic Hold and Cut-off Indicating Type Instrument

Prices Start at $165.00 — 40 Standard Models

Write for Complete Literature

INDUSTRIAL DIVISION
L&L MANUFACTURING CO.
CHESTER 30, PA.

If you write maker identify as IEN - 13114

FAR LESS TIP BREAKAGE with "RING SEAT" CENTER DRILLS

USE "RING SEAT"

CENTER DRILLS

IF YOU GRIND BETWEEN CENTERS

The "R" type, curved contour Ring Seat center drills give you a stable, accurate, precision center, quickly restored after heat-treat.

Ring Seat center drills produce a protected center at no extra cost—and carry a built-in discount because they last longer.

Lapping After Heat Treat

is a simple quick operation since only about one-third the usual area needs clean-up. Lapping with a rotating felt wick removes heat scale and restores a perfect center — at the original place.

A PREMIUM DRILL AT NO EXTRA COST

LINK INDUSTRIES

13848 Elmira Detroit 27, Mich.

FREE CIRCULAR

If you write maker identify as IEN - 13115

Production

Soldering

BETTER JOBS FASTER more

Economically

Complete with Fixtures and Conveyer

Save Labor, Solder... Increase Production

This new MOGUL unit is built to deposit silver, lead, and tin base solders in a liquid or semi-liquid form . . . faster, cleaner . . . to any constant moving part. This new automatic soldering gun replaces the soldering bath, hand soldering, and in many cases, expensive fixtures. Quickly adapted to various size parts. Adjustable to speed of work . . . gives pin-point location for cleaner seams.

BETTER WORK APPEARANCE

Deposits solder or brazing wire to the exact spot for cleaner seams. This new MOGUL soldering gun is now in wide use, saving time and money, increasing production, and turning out a better-looking product.

Write today for new MOGUL SOLDERING GUN bulletin

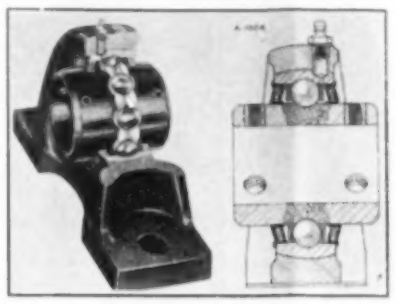
METALLIZING COMPANY OF AMERICA

Dept. IEN
3520 W. Carroll Avenue, Chicago 24, Ill.
Telephone: SAcramento 2-3710

If you write maker identify as IEN - 13117

BEARING . . Sealed pillow block with "zone" hardened inner race

Source: STEPHENS-ADAMSON MFG. CO.
231 Ridgeway Ave., Aurora, Ill.



Bulletin 1053

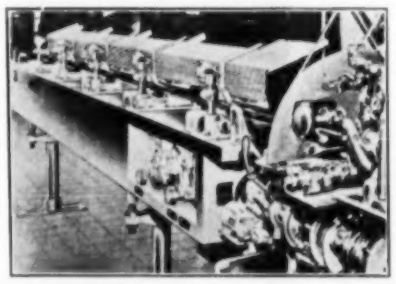
New design of the Sealmaster ball bearing pillow block, previously described IEN-7907-38, now includes an added process in which the inner race is "zone" hardened in the area just inside the ball ring by means of induction heat. This provides a hard raceway for the balls and leaves the ends of the inner race soft, where the set screws apply, so the screws are able to bind tightly when the bearing is locked on a shaft. The process involves induction heating and oil quenching in an automatic installation that assures accurate duplication of results.

The bearing is self-aligning design to include a spherical seat in the cast housing. The inner race is made for a slip fit on shafts measuring ⅞ to 2 11/16 in. in diameter in the standard duty line. Range is ⅞ to 2 7/16 in. in the normal duty, 1 7/16 to 2 11/16 in. in a heavy duty assembly. Formed steel rings are pressed into place on the inner and outer races to provide an annular space on each side of the ball race. This space is filled with felt rings to seal the bearing on both sides. A pressure lubricant fitting completes the assembly.

If you write maker identify as IEN - 13118

FEEDING . . Pneumatic equipment keeps bar stock supplied to a machine

Source: LIPE-ROLLWAY CORPORATION
804-8 Emerson Ave., Syracuse 1, N. Y.



Automatic action

New design of the company's pneumatic bar feed, for automatic operation from a magazine, previously described IEN-1631-41, permits application on sawing machines, abrasive cut-off machines, punch presses, centerless grinders, as well as on turret lathes and screw machines for which the equipment was originally developed. The magazine takes stock bars to 12 ft. in length. It holds 19 bars measuring ⅝ in. in diameter or 96 bars measuring ½ inch.

An air operated piston moves axially in a split tube located at the bottom of the magazine. This tube opens longitudinally to receive a bar when the preceding one has been used up. The tube then closes and the feeder automatically resumes its alternate push and stop action until it reaches a point where it retracts to its starting position and the cycle repeats.

The feed makes it possible for the operator to give all of his attention to the productive operations of the machine. It is adjustable for set-up at machines of various heights. The company is prepared to assist in special applications.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 13119

$325.00 *F.O.B. Springfield, Ohio*

Buys a POWER Floor Sweeper

Now the benefits of Parker *power* sweeping can be yours at the lowest price in the floor sweeping industry. Famous Parker "tough use" construction. Sweeps all kinds of floors . . . easily emptied . . . easily maneuvered in small spaces . . . pays for itself in a remarkably short time. Get our latest complete-line bulletin . . . get a Parker floor sweeper and prove its great man-saving, cost-saving operation on your own floors. Write PARKER SWEEPER CO., 411 BECHTLE AVE., SPRINGFIELD, OHIO.

PARKER FLOOR SWEEPERS

Manual and Motorized Models

If you write maker identify as IEN - 13120

FEDERAL DIAL FEED PRESSES

28 YEARS OF QUALITY CONSTRUCTION

Equal in output–

to several standard presses!

Often you will find a *single* Federal Dial Feed doing the work of three to five standard presses! Automatic loading and ejector mechanisms provide still further economies. Rugged, precision-built Federals are setting new highs in faster, safer, precision work — cutting down-time, reducing accidents, eliminating more expensive equipment. Finest materials and workmanship. Six to 80 tons.

No. 7 Dial Feed Capacity, 60 tons

Write for catalog!

THE FEDERAL PRESS COMPANY, 503 DIVISION STREET, ELKHART, INDIANA

If you write maker identify as IEN - 13121

Is this the tire for your needs?

This is the All Service cushion-type tire — one of the many types in the complete line which Goodyear makes to fit every individual need.

The All Service tread is designed to give you extra traction and durability. The cushion construction means easier riding, less fatigue for the operator—lower maintenance, too.

It is a product of more than fifty years of Goodyear leadership in building outstanding tires for every type of vehicle.

Selection of the right tire for the job at hand can result in big savings. Goodyear will be glad to send a fully qualified technical expert to your plant—to analyze your operation and to recommend the best tire for your particular problem. No charge, of course. Just write: Goodyear, Industrial Tire Sales, Akron 16, Ohio.

We think you'll like "THE GREATEST STORY EVER TOLD" every Sunday—ABC Radio Network
THE GOODYEAR TELEVISION PLAYHOUSE every other Sunday—NBC TV Network

GOODYEAR

INDUSTRIAL TIRES

All Service-T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

If you write maker identify as **IEN - 13123**

PILLOW BLOCK
BALANCING WAYS

Built in
1,000
2,000
5,000
10,000
20,000
Capacities

Especially suited for large diameter work, as a sub-base can be made of proper height to give necessary clearance for work. Anderson Pillow Block Balancing Ways are precision built with chilled iron discs which rotate with minimum friction on sensitive special bearings. Many manufacturers have endorsed them for efficient, static balancing.

Write for Bulletin No. 11-35

ANDERSON BROS. MFG. CO., Rockford, Ill.

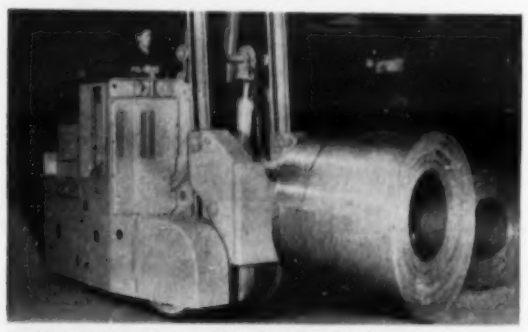
Balancing Ways, Roto Checkers, Hand and Power Scrapers, Spotters, Hand and Power Hydraulic Straightening Presses.

If you write maker identify as **IEN - 13124**

B.F.Goodrich

FREE TIRE AND WHEEL ANALYSIS can save you as much as 50% on industrial tires

ROUGH HAULING SURFACES? They can slash tire life, increase maintenance costs. The BFG man can show you how to get maximum tire life.



HEAVY LOADS AND EQUIPMENT? Overloads can cause premature tire failures. Your BFG man knows how to match the tire and the load.

Here's how to start cost cutting

Mail the coupon below for free information on the B. F. Goodrich Tire and Wheel Analysis Plan. Without obligation a trained BFG man will study your materials handling operations. He will tell you what type and size tires, what tread design and compound will serve you best.

Because BFG makes a *complete* line of industrial tires, you get impartial recommendations, plus maintenance suggestions that alone can cut costs 20%. Mail the coupon today! A special TW Analysis Plan is available for manufacturers of materials handling equipment.

WRITE FOR THIS BOOK

Specify B. F. Goodrich tires when ordering new equipment

The B. F. Goodrich Co.
Tire & Equipment Division
Department TW-316, Akron 18, Ohio.

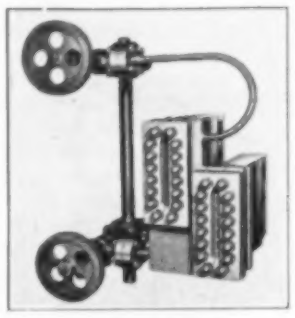
Please send me:
☐ *Additional information* on your new Tire and Wheel Analysis Plan
☐ A free copy of your "Industrial Tire Guidebook"

Name _____
Company _____
City _____ Zone ____ State ____

If you write maker identify as **IEN - 13126**

GAGE . . Flat glass design for water level under high pressures

Source: DIAMOND POWER SPECIALTY CORP.
51 E. Main St., Lancaster, Ohio



Bulletin 1051

The possibility for glass breakage is minimized in this new high pressure water level gage by dividing the gage height into a number of sections in which separate glass pieces are accurately fitted and mounted on mica separators at the joints. The sections overlap each other by a small amount so there is no loss of visibility as the water level moves from one height to another. The construction is now employed by the company on all of its Bi-Color gages for pressures over 1,350 pounds.

If you write maker identify as **IEN - 13127**

HOSE . . For chemical solutions, acids, alkalis, sizes ¾ to 3 inches

Source: RAYBESTOS-MANHATTAN INCORPORATED
63-65 Willett St., Passaic, N. J.

Line includes eight sizes

Flexlastic synthetic rubber tube is reinforced with 3 to 6 plies of woven duck and is covered by a Flexlastic cover in construction of the new Condor acid hose. The inner tube is available in four thicknesses ranging from $\frac{1}{16}$ to ¼ inch. The hose is regularly supplied with four-ply duck. Fifty foot lengths are standard. The user attaches his own fittings or specifies them. Rubber flanged ends also can be specified on the hose. The ends are straight or enlarged and are rubber capped for acid protection.

Two types are intended for discharge duty at temperatures to 150 deg. F. and for suction duty at the same temperature limit. In the latter case, a spiral of galvanized steel wire is embedded in the hose wall to prevent collapse due to suction.

If you write maker identify as **IEN - 13128**

LADDER . . Extruded aluminum steps and side rails, 4 to 10 feet

Source: LOUISVILLE LADDER CO.
1103 W. Oak St., Louisville 10, Ky.

Master Heavy Duty

The front legs of this new step ladder are braced to the bottom step and each step is double riveted at the front. Channel sections with reinforced braces are used on the back legs. A pail shelf is included in sizes from 6 to 10 feet. Hinge points are reinforced with metal plates secured by cadmium plated steel rivets. Rubber pads on the feet complete the assembly. Sawtooth serrations make the steps slip proof.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 13129**

BIGGEST OUNCE OF PROTECTION

Grafo

A spray for your forging dies. Prevents sticking and galling; permits easier flow of metal; gives better finish on the forging; permits forging to closer tolerances and generally illuminates the necessity for grinding to specifications.

Reduces die wear, tearing and rippling. On hot dies a dispersion of "GRAFO" colloidal graphite in petroleum oil, water and other liquid mediums leaves a dry grafoid surface having a low coefficient of friction that functions under extreme heat far above the point where petroleum lubricants are completely destroyed.

Write us regarding your special applications. Our engineers will be glad to study your problems.

GRAFO COLLOIDS CORPORATION

MANUFACTURERS OF *Grafo* COLLOIDAL PRODUCTS

299 WILKES PL.
SHARON, PENNSYLVANIA

If you write maker identify as **IEN - 13130**

Indus Wheels Solve Wheel Problems

Send for SPECIFICATIONS AND PRICE SHEETS FOR INDUSTRIAL AND JUVENILE

WHEELS

- Semi-Pneumatic, Pneumatic, or Solid Tires
- Tire Load Ratings to 925 pounds
- Wheel Sizes 2½" to 16"
- Available with ball, roller or Grafoil bearings
- Baked enamel finish to customers' specifications

INDUS CORPORATION
1817 MADISON AVENUE
INDIANAPOLIS 25, INDIANA

If you write maker identify as **IEN - 13131**

DEVIL'S PUTTY

Withstands severe thermal shock-high fusion

DEVIL'S PUTTY . . . a new graphite impregnated plastic refractory for: steel and gray iron ladle linings; making up spouts and runners; linings for ferrous and non-ferrous metal melting furnaces and similar applications.

DEVIL'S PUTTY reduces refractory inclusions, thus producing cleaner castings; withstands severe thermal shock without "sluffing off"; contains chemically treated graphite that will not burn out of the mix, which aids surface lubrication and permits cleaner and faster pours. Molten metal has no sticking - tendency to DEVIL'S PUTTY lining, so, slag rises quickly to top for easy skimming.

Write for useful literature . . . and the name of your nearest Botfield Distributor.

BOTFIELD REFRACTORIES CO.
792 S. Swanson St., Philadelphia 47, Pa.

In Canada,
Canadian Botfield Refractories Co., Ltd., 171 Eastern Ave., Toronto

If you write maker identify as **IEN - 13132**

WHEN YOU USE "STREAMLINER" CONVEYORS

"Streamliner" Gravity Roller Conveyors are "custom-engineered" in several types to meet special as well as standard requirements. No doubt you can use such a cost cutting conveyor in your plant. To get examples of these conveyors in action, write for Bulletin 100.

"Streamliner" Gravity Conveyors • Power Conveyors • Conveyor Systems

HARRY J. FERGUSON COMPANY
125 WEST AVENUE, JENKINTOWN, PENNA.

If you write maker identify as IEN - 13133

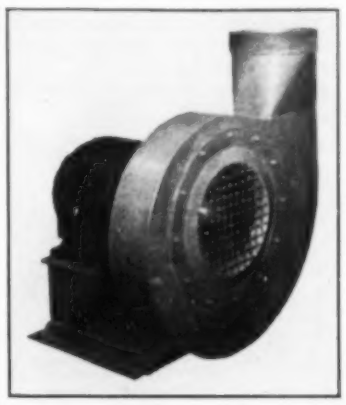
MAXIMUM EFFICIENCY

From

Industrial Oil or Gas Burners

is assured when air for combustion is supplied by—

ROBINSON TURBINE TYPE PRESSURE BLOWERS



They are designed for accurate performance and built in a wide range of capacities from 4 ounce through 16 ounce pressure.

Ask for Bulletin No. 1100

ROBINSON VENTILATING COMPANY

Manufacturers of Fans and Ventilating Machinery for over fifty years

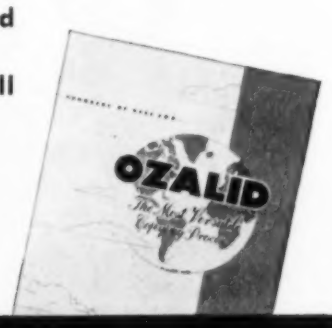
1945 HARMONY STREET

ZELIENOPLE PENNSYLVANIA

If you write maker identify as IEN - 13134

SEE HOW YOU CAN SAVE WITH OZALID COPIES!

Write Today for free, 48-page "100's of Uses" Booklet Showing How Direct Copies with Ozalid, Speed Paperwork and Cut Costs in All Departments.



Cut Copying Costs . . . Use

OZALID®

JOHNSON CITY, N. Y.

A Division of General Aniline & Film Corporation

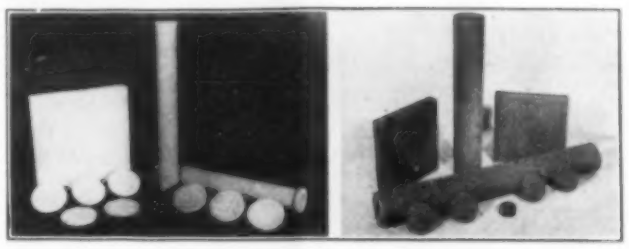
"From Research to Reality"

Ozalid in Canada—Hughes Owens Co., Ltd., Montreal.

If you write maker identify as IEN - 13136

FILTERING . . Porous calcined clay and carbon for liquid and gases

Source: FILTROS INCORPORATED
10 Commercial St., East Rochester, N. Y.



Technical data in Bulletin 11

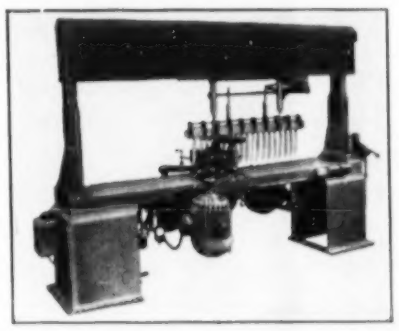
Resistance to thermal shock and ability to stand up in temperature to 900 deg. C. characterizes the new porous calcined refractory clay filter media shown to the left in the illustration. It is suited to handle air, hot acid gases, acid liquids. Pore volume is about 50 per cent of the body. The material is available in plates, tubes, complete false tank bottoms in pore sizes from 10 to 200 microns. Tubes can be supplied in lengths to 36 in. and about 14 in. in outside diameter in single pieces. Plates are suited for air conveying and bin discharge of powdery solids.

Caustics and acids can be filtered through the new porous carbon media shown to the right. The material is suited also for hot alkaline gases, for precoat filtration, and for porous tank bottoms. Pore sizes range from 10 to 200 microns. Tubes are available in one piece to 36 in. in length and 20 in. in outside diameter.

If you write maker identify as IEN - 13137

POLISHING . . Finishing machine for spoon necks, knife blade bolsters

Source: CLAIR MFG. CO.
1004 S. Union St., Olean, N. Y.



Tooling as specified

Two buffing wheels are mounted adjustably on vertical spindles and are belt connected to 3-hp. vertical driving motors in this new Model 207 Shouldering machine. The wheels ride on the two sides of work held in a rack fixture. The fixture can be loaded and put through other polishing operations, the new machine finishing the work on areas the other machines cannot reach.

Horizontal movement of the work rack is adjustable to 44 inches. The buffing wheels can be raised or lowered through a 1-in. adjustment. Floating contact between the buffs and the work is maintained at any pressure setting on a regulator that controls an air cylinder between the buff spindles. Hand crank adjustments permit altering the center line of contact between the buffs and tilting the buff spindles through 12½ deg. arcs. An emergency control immediately retracts the buffs to clear the work when desired.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

Sturdy, Strong, Band-Saw Guide

Model 20, shown above, can be installed on machines having 2½" back of blade to guide post. It's designed to work above or below saw table. Inter-changeable ball-bearing wheels give friction free support to blade. Cut out section pictured: shows grooved thrust wheel that holds back of blade. Side wheels & thrust wheel run with blade. Easier & better adjustment for thrust wheels for ⅛" to 1¼" wide blades. Models for large or small machines. Give size, make of machine on which guide will be used. Write for circulars, prices, etc.

SHIPPED ON APPROVAL
WHERE VALUE IS QUESTIONED

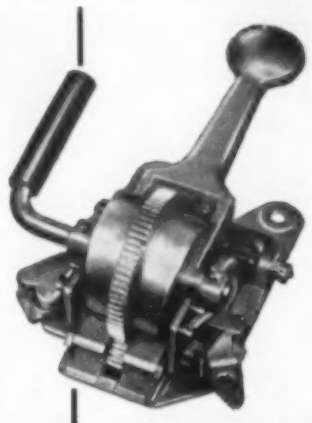
PADDOCK TOOL COMPANY

Guide Makers Since 1920

1418 Walnut Street • Kansas City, Mo.

If you write maker identify as IEN - 13139

Your Tying Operation Completed in Seconds!



INLAND MODEL "D" TYING MACHINE

Just a single back-and-forth motion of the lever on the Inland Model "D" tensions and ties the wire in but a few seconds. This really puts small and medium size package handling on a production-line basis — man-hour output is stepped up and costs are lowered considerably.

Inland packaged round wire (in 25 lb. coils) — for use with the Model "D" — is dispensed absolutely kink-free at all times. It is available in 17, 17½ and 18 gauge, galvanized or coppered. For faster, safer and more economical wire tying, investigate this efficient wire tying combination.

Ask for complete information on this new, efficient package tying combination. Just to refer to Model "D" and Wire

INLAND WIRE PRODUCTS CO.

3963 South Lowe Avenue Chicago 9, Illinois

If you write maker identify as IEN - 13140

New DRY TAMP PERMAMix Floor Patch

Don't stop traffic to repair floors—use Permamix, the new all-temperature DRY TAMP floor patch.

DRY TAMP MEANS SPEED • No sticky mass to dig out of the drum or to handle • Permamix dry pours • sets instantly • feather edges perfectly • no production delays • non-skid surface.

ALL TEMPERATURE • Won't freeze • can be stored or used in any temperature • will store indefinitely • a stock room item • will not "set" in drum whether open or covered. Mistakes just can't happen. Tamp in place and traffic rolls.

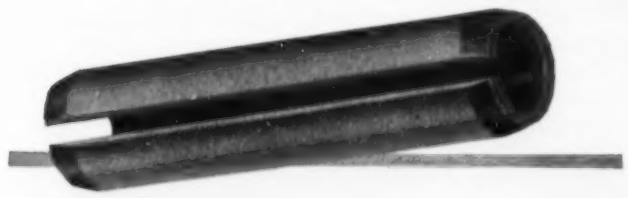
CUTS MAINTENANCE COSTS on concrete, brick, tile or asphalt floors • no special equipment or skill needed • a one man job • comes in durable 50 lb. net wt. fibre drums • solve your floor patching problems for good.

Write for Details Now!

PERMAMIX CORPORATION

230 N. LaSalle Street • Chicago 1, Illinois

If you write maker identify as IEN - 13141



SEL-LOK SPRING PINS

won't vibrate loose

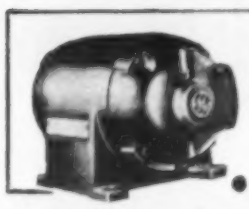
Use them as hinge pins, use them to fasten gears, pulleys and sheaves to steel shafting, use them to replace keys, keyways and cotter pins—they won't work loose. For complete information, write STANDARD PRESSED STEEL Co., Jenkintown 14, Pa.

Sel-lok spring pins are shock resistant and vibration proof • eliminate expensive reaming operations • replace tapered or grooved pins • easy to insert and remove • reusable • accurate in diameter and length • reduce installation costs • lighter in weight and as strong as a solid cold-rolled steel pin of the same diameter • available in a full range of lengths and diameters

SEL-LOK SPRING PIN DIVISION **SPS**

JENKINTOWN PENNSYLVANIA

If you write maker identify as **IEN - 13142**

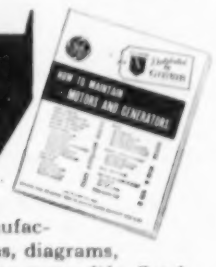


TRI CLAD MOTORS ...via Graybar

Graybar can supply rugged, dependable G-E Tri-Clad motors in a wide range of types and sizes suitable for virtually any plant or commercial need.

Your nearby Graybar Representative can also help you select a matching G-E control. Order them "as a package" through any one of more than 100 conveniently located Graybar offices.

Send for this *Free* Maintenance Manual



All you need to know for examining, adjusting, and servicing motors and generators ordinarily used in manufacturing plants. 40 pages of illustrations, diagrams, and text designed to help add years to motor life. Send for your FREE copy today. *Graybar Electric Co., Inc. Executive Offices: Graybar Building, 420 Lexington Avenue, New York 17, N. Y.* 380-1211

Call Graybar *first* for . . . Everything Electrical GraybaR Electric Company

If you write maker identify as **IEN - 13143**

Full Data on the NEW Simplified Recording Potentiometer

SEND FOR YOUR COPY

This booklet unfolds the complete story of the recording potentiometer that has been acclaimed by instrument men everywhere for its unequalled versatility, accuracy, long-term dependability, and its *unit design* which makes servicing so simple and quick.

With fewer components . . . with all assemblies greatly simplified and quickly interchangeable . . . with all adjustments including range changes made quickly on the line . . . with new ruggedness to withstand vibration, shock and usual plant abuse . . . it has set new standards for sustained accuracy, and for economy in servicing and maintenance.

This new WESTON Simplified Recording Potentiometer can be used to measure and record temperature, d-c current, d-c voltage, resistance, a-c voltage, a-c current, speed, speed ratio, power, frequency, hydrogen ion (pH), light intensity or any other quantity that can be converted into electrical values. The whole story is available in this booklet. Send coupon for your copy today. WESTON Electrical Instrument Corporation, 614 Frelinghuysen Avenue, Newark 5, New Jersey.

WESTON

5256

WESTON *Instruments*

WESTON ELECTRICAL INSTRUMENT CORPORATION
614 Frelinghuysen Avenue, Newark 5, New Jersey

Send a copy of the booklet describing the WESTON Simplified Recording Potentiometer to:

NAME_____

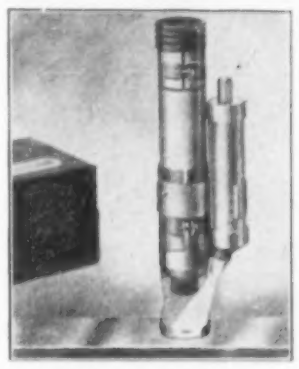
ADDRESS_____

CITY_____ ZONE_____ STATE_____

If you write maker identify as **IEN - 13145**

GAGE . . Brinell microscope reader to measure ball indentation diameters

Source: PACIFIC TRANSDUCER CO.
11919-23 W. Pico Blvd., Los Angeles 64, Calif.



Eliminates guessing

Magnification is 20X for this new illuminated indentation reader. The illumination is provided by a prefocused battery powered light on the side of the microscope housing. A clear image of the indentation, made by a Brinell hardness tester, and the image of the microscope reticule are superimposed so the diameter can be read in millimeters and tenths. Total scale length is 7.0 mm. and field diameter is 7.5 mm. The velvet lined carrying case measures about 2 by 2½ by 8 inches. List price of the new assembly is $56.50.

If you write maker identify as **IEN - 13146**

SEALING . . Leather packings for equipment handling gases, liquids

Source: CHICAGO RAWHIDE MFG. CO.
902 N. State St., Elgin, Ill.

Details in Conpor Report

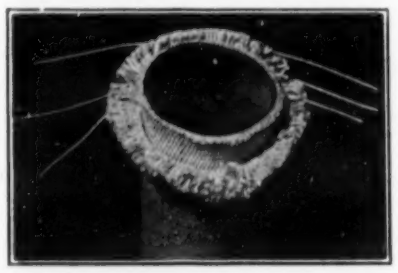
Conpor trade names a new treated leather developed by the company to control porosity in the leather and to be used in manufacture of leather packings to handle specified liquids and gases. The treatment involves impregnation of the leather with a flexible plastic or elastomer with rubber like qualities.

The treated leather remains flexible at temperatures to minus 70 deg. F. It can be employed in temperatures to 250 deg. F. The company is prepared to manufacture the leather packings to meet given service requirements.

If you write maker identify as **IEN - 13147**

HOSE . . Woven glass fiber yarn reinforces rubber tube in fire hose

Source: BOSTON WOVEN HOSE & RUBBER CO.
27-31 Hampshire St., Cambridge 39, Mass.



100 feet, 81 pounds

The company announces limited production of its new fire hose in which glass fiber yarn is employed in the two reinforcing braids surrounding the inner rubber tube. The new construction reduces weight of a 100-ft. length by about 20 pounds without loss of strength. The glass yarn will not absorb moisture. It has excellent structural strength against crushing if trucks are passed over it.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 13148**

MACHINE PARTS and BEARINGS *by Powder Metallurgy*

SELF-LUBRICATING BEARINGS:

Standard sizes as described in Metal Powder Association Standard No. 14-51T on (Metal Powder Sintered Bearings). Also special bearings. Write for complete information.

METAL POWDER MACHINE PARTS:

AUTOMOTIVE TEXTILE AIRCRAFT

Above are just three of the many types of metal powder machine parts we manufacture. Also manufacturing metallic friction materials and filters.

Metal powder machine parts can be purchased under several government and industry specifications. These include MIL-B-5687-A, MPA 16-52T and ASTM B-202-45T.

If you are reviewing costs on existing parts or estimating on new construction and will send us your prints, our engineers will:

(1) Furnish you with quotations if the part is adapted to our method of manufacture.

(2) Suggest possible modification in design to effect further economies.

(3) If the part is not feasible in metal powder suggest other practical methods of manufacture.

Powdercraft Corp.
750 Hayne Street
Spartanburg South Carolina

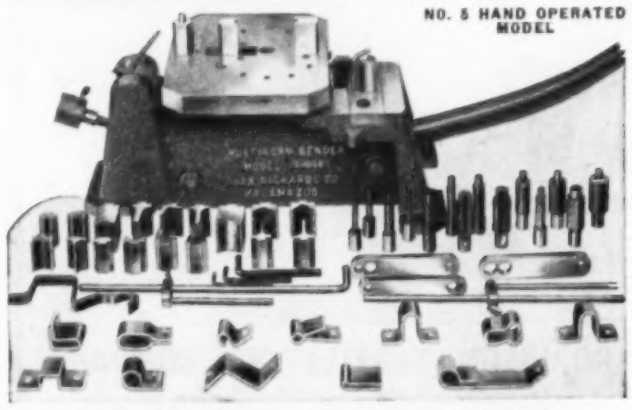
If you write maker identify as **IEN - 13149**

THE FAMOUS MUTIFORM BENDER CUTTER

Produces Without Special Tooling • Saves Die Costs Saves on Expensive Presses

The illustration to the left shows just a few pieces produced on our famous Multiform Bender-Cutter. This efficient machine is useful in all lines of trade, Spring Plants, Radio, and Electrical Equipment Manufacturers, complete with tooling for bending material up to ⅛" x 1½".

NO. 5 HAND OPERATED MODEL



FIVE-IN-ONE-TOOL—ALSO LARGER MODELS

Air Operated Models in this and Larger Sizes Available

IT BENDS FLAT AND ROUND STOCK INTO ANY SHAPES, CUTS AND PUNCHES FLAT STOCK

J. A. RICHARDS CO. 907 NORTH PITCHER ST. KALAMAZOO 60F, MICH.

If you write maker identify as **IEN - 13150**

IT TAKES TWO TO MAKE A BARGAIN But Only ONE MACHINE To Make Two Bends

Now you can make two bends at the same time in a piece already bent on different planes. The dies are adjustable to any centers within the height of the central die spindle. This feature also insures that both the top and bottom bends will be identical. The PEDRICK Benders are equipped with automatic relay controls for automatic duplicate production bending. Ideal for chair frames, cart handles, and a myriad of other applications.

Write for descriptive folder.

Prices as low as $1575.00

PEDRICK TOOL & MACHINE CO.
3640 North Lawrence St., Dept. 7, Phila. 40, Pa.

If you write maker identify as **IEN - 13151**

GIANT

HYDRAULIC CYLINDER

Lifts 75 Tons

5 Foot Long, 9" Bore, 11" Stroke (Modifies to 18" Stroke), Forged Steel, Hard Chrome Shaft — For Presses, Heavy Machinery, Etc. $350.00

Hydraulic Power Units (Test Stands)

Up to 4000 lbs. pressure at 10 gals. per min. Powered by Wisconsin 25 HP 4 cylinder gasoline engine. Liberty Model F-2800 Type 109 complete with rubber tired cart, control panel, relief valves, accumulator, reservoir, and pressure gauge. $650.00

Portable Oxygen & Acetylene Generators

Oxygen Generator, Acetylene Generator, pressure regulators, 4 cans extra chemicals, funnels, carrying case, instructions. Mfg. by Sight Feed Generator Co. Rated 8 cu. ft. per hour. Every thing except torch and hose. $89.50

AIRCRAFT COMPONENTS, INC.
Benton Harbor Michigan

If you write maker identify as IEN - 13152

If you write maker identify as IEN - 13153

Give yourself the

Unbeatable Performance of the RIDGID Heavy-Duty Pipe Wrench

Every RIDGID Wrench Factory-Tested

That's what makes sure that every RIDGID performs as you've learned to expect . . . *every* part inspected, *every* wrench pipe tested 100%! Only RIDGID's housing is unconditionally guaranteed, saving you bother and expense. Full-floating hookjaw, adjusting nut spins easily in all sizes, 6" to 60"; replaceable alloy jaws, handy pipe scale on hookjaw, comfort-grip I-beam handle. For most service for your money, buy RIDGID's . . . at your Supply House.

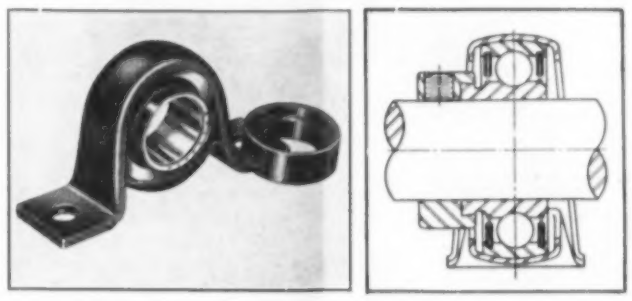
THE RIDGE TOOL COMPANY • ELYRIA, OHIO, U.S.A.

RIDGID
Work-Saver Pipe Tools

If you write maker identify as IEN - 13155

BEARING . . Light duty pillow block in self-aligning ball bearing design

Source: FAFNIR BEARING CO.
35-39 Booth, New Britain, Conn.



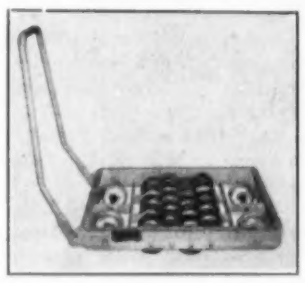
Bulletin 435

Load rating, in radial direction, is 350 to 600 lb. for this new Type-PB self-aligning pre-lubricated precision pillow block. Shaft size ranges from ¾ to 1¼ inches. Smaller sizes are not carried in stock but will be made when demand justifies tooling. Construction includes a two-piece pressed steel housing with the company's wide inner ring type of ball bearing, a self-locking collar and the patented Plya-Seals. Base length measures 3⅞ to 4½ inches. Base width is 1¼ to 1½ inches. Maximum recommended speed is 2,400 rpm. Thrust rating is ⅓ of the radial rating.

If you write maker identify as IEN - 13156

TRUCK . . Twenty-eight wheel dolly to carry and steer loaded pallets

Source: ROLL-RITE CORPORATION
803 Jefferson St., Oakland 7, Calif.



Turns in own length

Frame sizes are 30 by 40 in. and 40 by 48 in. in this new pallet dolly. The load is carried on 24 wheels 6 in. in diameter mounted on four axles. The load is stabilized by four spring loaded wheels on two axles. A steering handle is attached to one end. The load wheels can be equipped with rubber treads or aluminum rims. The dolly is designed particularly for use in refrigerator cars and trucks.

If you write maker identify as IEN - 13157

CLEANING . . Screw type washer for use on sand and similar materials

Source: McLANAHAN & STONE CORP.
100 Wall St., Hollidaysburg, Pa.

Bulletin SW-953

Sand and water enter through a feed box at the lower end of this new washing machine. Twin screws forward the sand to the upper discharge end while the water and entrained foreign matter, with specific gravity less than the sand, return for discharge at the bottom.

Eight sizes in the twin assembly employ screws measuring 20 to 36 in. in diameter by 20 to 25 ft. in length. Capacity is 70 to 250 ton per hr., based on average sand with retention of a minimum of minus 100-mesh size. Water rate ranges from 580 to 1,000 gpm. for the 100-mesh product. Input is 7½ to 30 hp. Weight is 10,100 to 18,700 pounds.

If you write maker identify as IEN - 13158

HEAT TREATING . . Electric furnace for small work, 300 to 2,000 deg. F.

Source: K. H. HUPPERT COMPANY
6856 Cottage Grove Ave., Chicago 37, Ill.

Guaranteed elements

Model KR is a new assembly of electric furnace and supporting cabinet, the latter containing the power transformer and temperature control equipment. Five sizes enclose work chambers that measure 6 by 9 by 6 in. to 10 by 18 by 8 inches. Input is 2 to 12 kw. Operation is on 220 or 440-volt single-phase ac. List price ranges from $710 to $1,580.

Construction includes Kanthal rod type electric elements, a double-pivoted plug type door, lights to indicate closed circuit and operation of the temperature control. Finish is in baked green enamel.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 13159

If you write maker identify as IEN - 13160

BIG NEWS IN FIRST AID KITS!

If you think all First Aid Kits are alike, we've got NEWS FOR YOU! To produce a Kit that would serve YOU better, we "put the finger" on every place where modern design, latest quality control, and color keying would bring you important EXTRAS in First Aid Kit quality and performance.

Our bulletin gives the full story on our new approach. You'll find how added Quality Control measures assure pharmaceutical thoroughness of every treatment . . . how the "New Look" gives you something better in convenience, use . . . how our case design serves you better in emergencies . . . how our first aid material line meets first aid needs better.

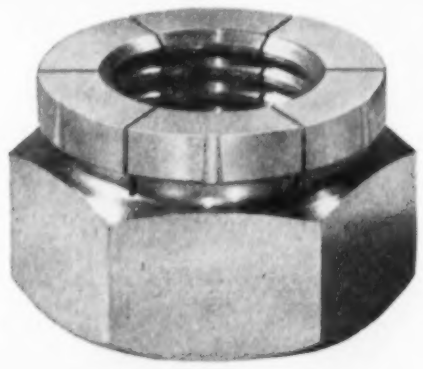
Write today for your copy . . . it's BIG NEWS you don't want to miss!

MSA SAFETY EQUIPMENT HEADQUARTERS

MINE SAFETY APPLIANCES COMPANY
201 North Braddock Avenue
Pittsburgh 8, Pennsylvania
76 Branch Offices in the United States

If you write maker identify as IEN - 13161

they're ONE piece, ALL metal . . .



no parts to work loose or get lost

Because they are one piece—nothing to assemble, come apart, lose or forget—FLEXLOC locknuts save production time. Because they are all metal, they lock and stay tight at higher temperatures. See your local industrial distributor for literature and samples or write SPS, Jenkintown 14, Pa.

Our Fiftieth Year : A START FOR THE FUTURE

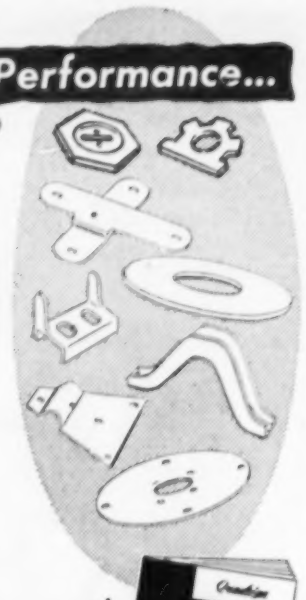
FLEXLOC LOCKNUT DIVISION

SPS
JENKINTOWN PENNSYLVANIA

If you write maker identify as IEN - 13162

Insure Product Performance...

use Quadriga® STAMPINGS and WASHERS



Parts Assembly Work

Build long-lasting quiet and dependable performance into your products. Specify Quadriga Stampings, Washers and Assembled Parts. Custom-fabricated to your exact specifications . . . Quadriga quality is your insurance against vibration, noise and resultant wear.

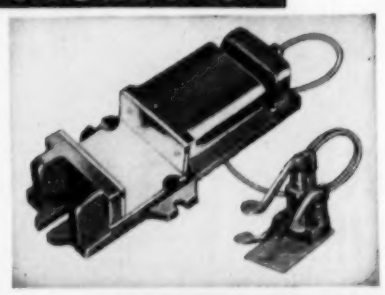
Stampings of all types. Tension, spring, formed, cupped or finishing washers . . . all materials. Wire terminal washers. Parts assembly work. Press capacity to 150 tons . . . depth of draw to 4 in. We build dies.

Send B/P, sample or data for estimate. Ask for new illustrated catalog.

THE QUADRIGA MANUFACTURING CO.
215A West Grand Avenue • Chicago, Illinois

If you write maker identify as IEN - 13163

Use This MILVISE To SPEED Production



ON
Drill Presses
Milling Machines
Surface Grinders
Shapers
Boring Machines

Studebaker MILVISE

- Mounts securely upon a machine platen, or swivel base on machine table or bench.
- Holds work with hydraulic pressure to 7 tons.
- Safe—leaves both hands free for work.
- Positive foot operated hydraulic unit —no wheels, cranks, handles, levers or screws.

Write for bulletin No. 53.

Studebaker MACHINE COMPANY
1235 S. Ninth Avenue • Maywood, Illinois

If you write maker identify as IEN - 13164

Bought your copy yet?

- 700 Pages
- 450 Illustrations

"One or Several Are Needed in Every Stamping Shop . . . American Machinist"

Sections on: Computing press jobs • Selecting proper press • Useful engineering tables • Die illustrations • Complete glossary • Plus a service section for Bliss presses. $7.50

E. W. BLISS CO.
(Handbook Department)
1403 Raff Road S. W., Canton, Ohio

Please rush me a copy of the Bliss Power Press Handbook.

I am enclosing $7.50 • Bill me

If you write maker identify as IEN - 13165

GAGE . . Pneumatic recorder marks sheet thickness on strip chart

Source: ROANWELL CORP.
662 Pacific St., Dept. IEN, Brooklyn 17, N. Y.

Shows variation

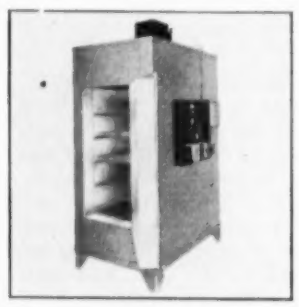
Aerosensor is a new air operated instrument to trace deviation from a predetermined thickness in sheet materials such as paper, metal foil, plastics. The instrument operates while the sheet is standing or in motion. It traces a continuous record on a strip chart between a pair of manually positioned limit indicators. An operator can watch the trace and make required adjustments.

A small "sensing" nozzle is placed close to the sheet and air is forced through it at a constant pressure. Back pressure, at a calculated distance between the nozzle and the sheet, is set at zero on the instrument for a desired thickness. Any variation in thickness will alter the back pressure and actuate the recorder mechanism to show minute deviation.

If you write maker identify as IEN - 13166

HEATING . . Electric oven circulates hot air, 650 or 850 deg. F.

Source: GRIEVE-HENDRY COMPANY
1813-17 W. Lake St., Chicago 12, Ill.



Uniform heat

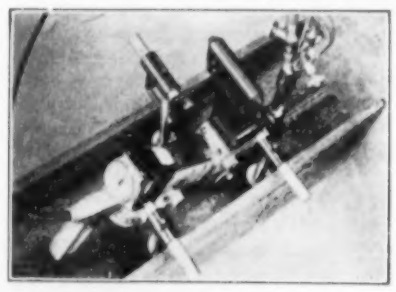
New design in Series-V of the company's electric ovens, previously described IEN-6753-53, features an increase in the insulation thickness to 5 in. of Fiberglas, a double gasketed door with a heat trap, and a high-low selective heat control. Two sizes provide work space measuring 26 by 26 by 38 in. and 26 by 38 by 50 inches. The housing is reinforced steel in welded assembly with mounting on 6-in. legs and finish in silicone aluminum paint.

A blower is belt connected to a motor to circulate hot air through the heating chamber from Inconel-sheathed electric elements assembled in a plenum chamber. Volume of air flow is adjustable. Intake and exhaust are adjustable also. Indicating temperature control and a manual interlock for rapid cooling or purge operation are standard equipment.

If you write maker identify as IEN - 13167

CUTTING . . Acetylene torch machine burns through web of I-beam or channel

Source: AMERICAN PULLMAX CO.
2453-57 N. Sheffield Ave., Chicago 14, Ill.



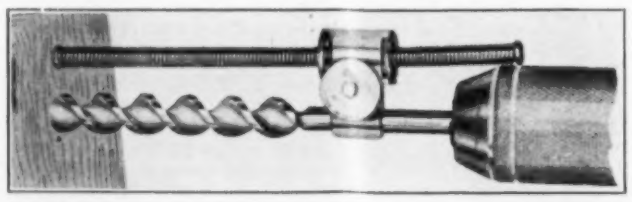
Carries to the job

New design, Model HP of the Cadet acetylene torch cutting machine, previously described IEN-7866-52, cuts longitudinally through the web of an I-beam or channel. It also can be employed to cut limited irregular shapes from plates. It applies between the flanges of a structural member measuring 5½ to 11¾ in. in width.

It is guided by two fixed rollers riding a 1½ to 2½-in. steel strip or angle, previously fastened in place, and by a third spring backed roller on the opposite side. Travel speed and gas flow to the torch are controlled by adjustments on the handle. Weight, including the guide rollers, is 29 pounds. The torch burns acetylene, propane or hydrogen gas and oxygen.

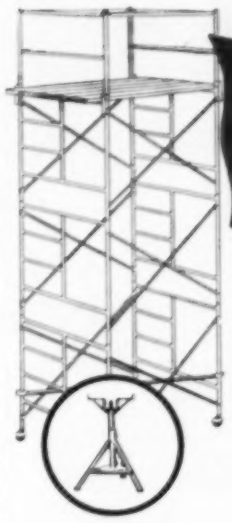
If you write maker identify as IEN - 13168

Bit Gage No. 47 is a new attachment to use when you are operating a brace and bit to bore a hole in wood to a predetermined depth. The unit clamps on the bit shank, carries a spring with a rounded end. You set the end back by the depth of the hole you want. The end contacts the work at this depth, then starts to bend back to tell you to stop turning. It does not mar the work. It retails for 85 cents from Stanley Tools, 478-82 Myrtle St., New Britain, Conn.



All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 13169



WACO Rolling Towers

Durable—Versatile

The most versatile equipment in the maintenance field, WACO Rolling Tower with Standard 5' Frames is equipped with built-in ladder—steps fifteen inches apart—four planking levels. Can be expanded to any desired size—still rolls easily. Constructed of standard WACO stock parts—readily available; add or subtract to meet job needs. Equipped with all the famous WACO features:

- "Speedlock Assembly"
- Built-in, floating coupling pins
- Heavy-duty rubber tire wheels—Brake-type casters

WACO Scaffold Jacks: Lightweight, portable, free-standing. One-man erected—save countless hours in scaffold erection time. Easy to handle, move and store. 4 sizes range from 1'6" to 9'4" platform height. Dual purpose head adjustable every 2 inches. All steel, all welded. WACO Scaffold Jacks offer speed, safety, convenience.

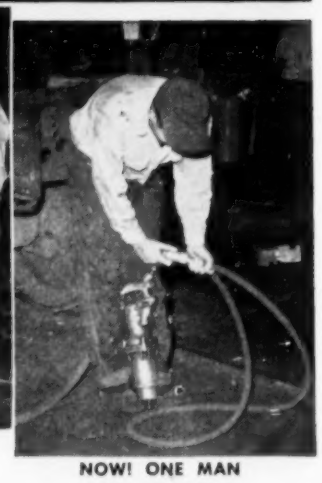
For complete information, see your WACO Dealer or write to

WACO Manufacturing Company
3567 Wooddale Avenue, Minneapolis, Minnesota
CANADA: Armson Irons Works, Windsor, Ont.
WEST COAST: Waco-May Co., Los Angeles, Cal.

If you write maker identify as IEN - 13170

★$4556 Per year SAVED ON LESS THAN A $10 INVESTMENT

IT USED TO TAKE 3 MEN 10 MINUTES



NOW! ONE MAN 10 SECONDS!

It used to take three men to change an air tool at the Warren Car Co., (Warren, Pa.) manufacturers of railroad gondola cars. It took one man to kink the air hose, another to hold the tool end, a third to spin off one tool and spin on another. This was usually a ten-minute operation. More important, of the three men changing the tool, only one was a tool operator; one was a welder; and the other a reamer, which meant that they had to leave their jobs just to help the air tool operator change from a riveter to an impact wrench. Today, with a Snap-Tite "Hi Flow" coupling (under $10 investment), it is a one-man job—and it only takes ten seconds to change air tools resulting in a $4,556 savings in valuable production time.

Here's how the coupling works: Just pull back the sleeve on the coupler and snap it off the tool (the built-in valve in the coupler automatically shuts off the air); snap the coupler on the next tool to be used and a full flow of air is automatically restored —no valves to turn, no wrenches to use, and no hose kinking!

For ever application there is a Snap-Tite "Hi Flow" coupling. If you, in your production processes or maintenance operations, have pneumatic or hydraulic applications that require as little as once a year connect or disconnect—the use of Snap-Tite couplings can effect a considerable saving.

Available in sizes: ⅛" to 10" and up. They will handle air, water, gas—practically anything that flows. Snap-Tite couplings are made from steel (cadmium plated); or for special applications, they can be made of any machineable metal with any known plating.

* Figures available on request.

SNAP-TITE "HI-FLOW—the greatest flow in couplings!

★Snap-Tite, INC.
TRADE MARK REG. U.S. PAT. OFFICE
210 UNION STREET, UNION CITY, PA.

If you write maker identify as **IEN - 13172**

Protect Your Plant With
DUNKING STATIONS

The safe solution to your plant smoking problem! Sipco Dunking Stations prevent fires. Cigarettes, cigars, matches, etc. immediately extinguished—no smoldering—no fire hazard! Built specifically for hard industrial use—and abuse.

Unit No. 1—Heavy cast aluminum canister, attractive metal sign, upright and heavy weighted base for use on floors, aisles, etc.

Unit No. 2—Same as Unit No. 1 except without upright and base. Easily mounted on walls, columns and posts.

Unit No. 3—Canister alone, with mounting bracket.

Write now for Illustrated folder which gives complete details.

STANDARD INDUSTRIAL PRODUCTS CO.
Dept. N. 116 South Garfield Ave., Peoria, Ill.

If you write maker identify as **IEN - 13173**

Widest power range of any powder-actuated fastening tool

MODEL 450 REMINGTON STUD DRIVER

Six different 32 caliber charges meet every fastening requirement

Each of the six power loads for the Remington Stud Driver is designed to give the right power for the job—whether it's driving the stud into concrete or steel.

New, longer heel caps on all six cartridges mean a perfect gas seal ...assure arrow-straight driving. Bright colors indicate the right load instantly, no chance for error. You can select the *right* cartridge for each job...quickly and easily.

But exceptional power range is just one of the Remington Stud Driver's many advantages. This self-powered tool sets up to 5 fastening studs per minute...speeds construction jobs and cuts costs. Its light weight—only 5½ pounds—makes handling easy, even in confined places.

Test-proved to be the world's finest and speediest fastening system, the Model 450 Remington Stud Driver is made by the Remington Arms Company, Inc., *America's oldest sporting arms manufacturer.* Send in the coupon below for your free booklet describing the Stud Driver and its many uses.

"If It's Remington—It's Right!"

Remington DU PONT

—MAIL THIS COUPON TODAY—

Industrial Sales Division, Dept. IEN-11
Remington Arms Company, Inc.
939 Barnum Ave., Bridgeport 2, Connecticut

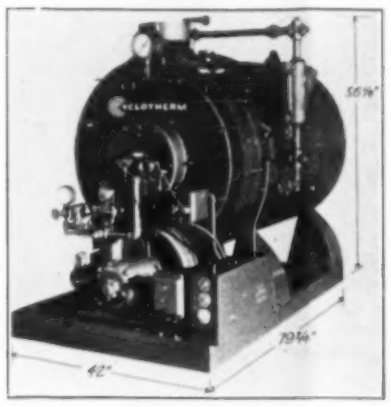
Please send me my *free* copy of the new booklet showing how I can cut my fastening costs.

Name .....
Position .....
Firm .....
Address .....
City ..... *State* .....

If you write maker identify as **IEN - 13175**

BOILER . . Self-contained design rates 50 bhp., is oil or gas fired

Source: CYCLOTHERM DIVISION
161-5 E. First St., Oswego, N. Y.



Ready to operate

Mighty 50 is new design in the company's line of self-contained boilers. It is characterized by its small size for its capacity. It requires no special foundation and can be connected to a steel flue for operation at about 80 per cent efficiency.

The burner fires into a centrally located steam chamber. Air is introduced tangentially to form a rotating cylindrical flame body. Products of combustion return from the rear of the chamber, through fire tubes, to the outlet connection at the front. The new unit assembles in a 20 sq. ft. area and stands a little under 5 ft. in height. It weighs 3,550 pounds.

If you write maker identify as **IEN - 13176**

TIMING . . Interval counter, motor driven, reads seconds or minutes

Source: LABLINE INCORPORATED
215-19 N. Desplaines St., Chicago 6, Ill.

Thumbwheel reset

Lab-Chron is a new time interval counter that is started and stopped by pressing a button on the housing front. The counter wheels are driven by a synchronous motor to total elapsed time in seconds and tenths or in minutes and hundredths. The unit can be connected into a control circuit through its 10-amp. start-stop switch. Operation is on a 110-volt 60-cycle circuit.

If you write maker identify as **IEN - 13177**

PACKAGING . . Paper container to ship and handle very moist products

Source: HINDE & DAUCH PAPER CO.
337 Decatur St., Sandusky, Ohio

Good stack strength

Never-Leak is a new one-piece die cut corrugated paper box that is able to hold liquids for long periods of time without seepage. It is supplied with the inside glassine-laminated, or covered with a special coating, or a combination of both. It is resistant to penetration by both grease and moisture. Self-locking ends of the body and cover permit assembly without the use of tape, stitches or glue. Handles, formed by the self-locking ends, make the box body adaptable as a tote tray. The cover can be furnished with a device to lock it to the body.

If you write maker identify as **IEN - 13178**

BUILDING . . Translucent sheet for windows, skylights, partitions

Source: ALSYNITE CO. OF AMERICA
4668-72 De Soto St., San Diego 9, Calif.

Non-breakable

Type 200-FR designates a new corrugated plastic sheet, reinforced with Fiberglas. The material represents further development of the flat material previously described IEN-1427-52. The new sheet is characterized by the new premium-price resins employed in the construction. They make the final product self-extinguishing, fire-resistant, color stable and weather resistant. Standard length is 8 to 12 feet. Width is 26 to 42 inches. The sheet can be worked with ordinary tools and secured with bolts, nails, screws or mastic. Colors are maize, green, opal.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 13179**

with PLASTIC ROCK!

Trowel a smooth, tough, malleable surfacing right over your old concrete or wood floor

Plastic Rock comes complete, packed in barrels; nothing more to buy; no "formula" to confuse. Simply mix and trowel over old floor; adheres to concrete, wood, steel; average depth ⅛"; perfect feather edge; hundreds of tons rolling on steel wheels only improve it. Spark-proof, skid-safe wet or dry; dustless, noiseless; cannot splinter, crumble, curl or loosen. Used by largest industries and railroads.

ASK FOR REPORT 220-Q-11.

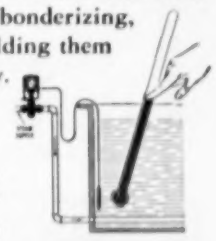
UNITED LABORATORIES, INC., 16803 Euclid Ave., Cleveland 12, Ohio

PRODUCTS AND PROCESSES for PROTECTING PROPERTY
Field Representatives All Over The World

If you write maker identify as **IEN - 13180**

It's NEW!

Saves LABOR—Will help you get the most effective use from solutions in plating, anodizing, bonderizing, pickling, cleaning and rinsing by holding them at the right temperature automatically.



Helps Eliminate Rejects. Saves steam by preventing OVER-heating. Dependable control often repays its cost 3 to 6 times a year. *Write for Bulletin 330.* (b32)

THE POWERS REGULATOR CO., SKOKIE, ILL.
Offices in over 50 Cities, see your Phone Book • Established in 1891

If you write maker identify as **IEN - 13181**

standardize on standard

use it anywhere

HALLOWELL CARRY-TOOL

It's the most convenient carrier in the shop. Use it on assembly lines, at machines, in the toolroom. Use it for inspection, stockroom, maintenance, and mounting small tools. Drawers have ball bearing rollers and padlock attachments. Stocked and sold by industrial distributors. Write for literature. SPS, Jenkintown 14, Pa.

Our Fiftieth Year : A START FOR THE FUTURE

HALLOWELL SHOP EQUIPMENT DIVISION **SPS** JENKINTOWN PENNSYLVANIA

If you write maker identify as IEN - 13182

INSTANT FLOOR PATCH

TOUGH! FAST! Get Trial Offer

Patch broken concrete floors without tying up plant traffic. Use durable INSTANT-USE — a tough plastic material which takes traffic immediately. Ideal for repairing cracks, holes, ruts. Bonds tight to old concrete . . . right up to a feather edge.

JUST TAMP! TRUCK OVER!

Simply shovel INSTANT-USE into hole or rut — tamp — and your floor is restored to solid smoothness — ready for traffic. Used indoors or out. Immediate shipment.

MAIL COUPON for TRIAL OFFER

INSTANT-USE

FLEXROCK COMPANY Offices in principal cities
3606-Z Filbert St., Philadelphia 4, Pa.

Please send me complete INSTANT-USE information, details of TRIAL ORDER PLAN and HAND BOOK OF BUILDING MAINTENANCE—no obligation. (Clip and attach Coupon to Co. letterhead).

Name ..... Title .....
Company .....
Address .....

If you write maker identify as IEN - 13183

Now Ready!

NEW CATALOG ON TUTHILL MODEL CK HIGH PRESSURE PUMPS

For Designers

For Production and Maintenance Men

Write for this new Tuthill Model CK Catalog No. 103.

It's a helpful guide to selecting the right pump for hydraulic service where the operating pressure does not exceed 400 p.s.i. Included is complete data on mechanically-sealed units and automatic reversing types in capacities from 5 to 200 g.p.m.

A copy is yours for the asking.

TUTHILL PUMP COMPANY
Dependable Rotary Pumps since 1927
939 East 95th Street, Chicago 19, Illinois

Canadian Affiliate: Ingersoll Machine & Tool Company, Ltd. Ingersoll, Ontario, Canada

If you write maker identify as IEN - 13184

HERE'S HEAT AS YOU NEED IT

for Soldering that's STRONGER FASTER CHEAPER

IDEAL

Thermo-Grip®

Get production-line speed on solder joints that are perfect every time. No preheating, no cold-flow joints, no remakes . . . Thermo-Grip's resistance heating puts instant heat right where you need it for best solder adhesion. Can't damage nearby joints or parts. Many capacities and "Plier," "Pencil," "Fork" attachments to cut costs on all types of jobs.

SOLD THROUGH LEADING DISTRIBUTORS

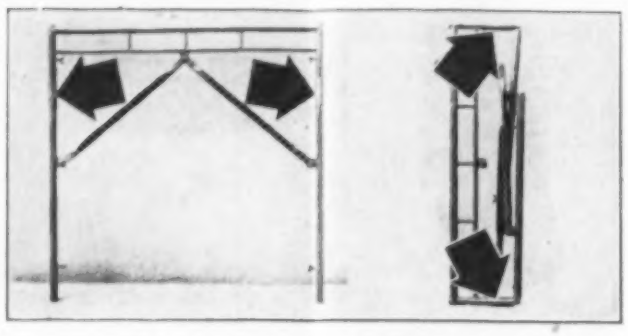
TRY THERMO-GRIP FREE

IDEAL INDUSTRIES, Inc.
1108 Park Ave., Sycamore, Ill.
Please arrange FREE Thermo-Grip demonstration and send catalog data.
Name .....
Company .....
Address .....
City ..... Zone ..... State .....

If you write maker identify as IEN - 13185

SCAFFOLD . . Tabular steel unit folds to pass through a 16 in. opening

Source: PATENT SCAFFOLDING CO.
38-23 12th St., Long Island City 1, N. Y.



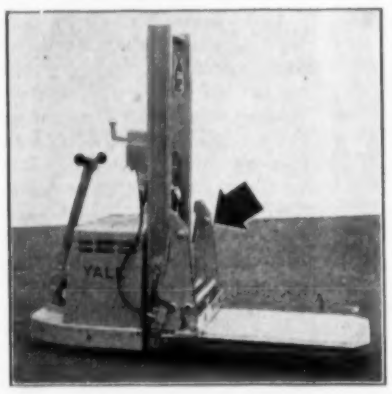
For "interior" repairs

Repair work on the inside of large tanks, boilers, furnaces is simplified by this new folding scaffold unit. It can be "collapsed" as shown to the right in the illustration to pass through a 16-in. opening. Inside the structure, where work is to be done, the legs are hinged into standing position. Sleeves are lowered to make the joints rigid and the two braces are connected. Diagonal braces then apply on studs equipped with wing nuts to build a working platform of desired size and height. The single unit measures about 5 ft. in width and stands about the same. It weighs 47 lb., has safe load capacity of 1 ton.

If you write maker identify as IEN - 13186

TRUCK . . Push-pull attachment fits Worksaver truck to handle dies

Source: YALE & TOWNE MFG. CO.
11002 Roosevelt Blvd., Philadelphia 15, Pa.



The operator walks

A load platform to take the place of the usual forks and a new double acting hydraulic push-pull mechanism is available for the company's Worksaver power lift truck to handle dies into and out of presses and storage. Load capacity is to 3,200 pounds.

Steering and travel control center at the steering handle at the rear of the truck. The pusher attachment is operated by a lever mounted on one of the truck uprights. A slide bar on each side of the load platform assures straight even movement while a heavy die and punch are being pushed off or pulled into handling position.

If you write maker identify as IEN - 13187

VAPOR COLLECTOR . . Removes oil from the air surrounding a machine

Source: AGET-DETROIT COMPANY
401 Main St., Ann Arbor, Mich.

Easy to clean

The fine mist generated by an abrasive belt grinding machine, operating with a coolant, and also the heavy sludge created by a combination of coolant, abrasive removed from the belt, plus lint and stringy material from the belt, are collected by this new design of the Model VCM-2 Dustkop machine. It was designed particularly for use on Pratt & Whitney airfoil blade grinders. It can be used on any similar equipment.

A motor, rated at ¾ hp., drives a centrifugal blower fitted with flat blades that resist tendency of the sludge-like material to "load". The blower picks up the vapor and also that portion of the sludge that passes baffles at the machine. It exhausts clean air through the collector unit back to the room. The unit is installed above the equipment it is servicing. Collected coolant returns by gravity, in the form of condensate, to the machine reservoir to be used again.

If you write maker identify as IEN - 13188

Office equipment and business machines, manufactured by Remington Rand Inc., 315 Fourth Ave., Dept., IEN, New York 10, N. Y., are now available for lease as well as for outright purchase. The new arrangement eliminates need for an initial cash outlay for capital equipment. It permits long term test. It provides for application of a portion of the lease payments against the purchase at a later date. It includes the service attention offered on a contract basis. Leases extend to 36 months and can be renewed.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 13189

When TEFLON* *Meets* "FOLDED-and-FORMED" HEATING ELEMENTS

one result is the manufacture of gaskets and packings that are unaffected by caustics, solvents, acids, chemicals or other liquids. If the packings or gaskets you are using were made from or impregnated with Teflon (*DuPont Company Trademark), chances are this new plastic was processed in equipment heated with "Folded-and-Formed" Elements . . . unequalled for efficiency, economy, adaptability . . . in Standard or Custombuilt Racks grouped to provide any required K. W. *What is YOUR heating problem?*

Meet us at the Chemical Show—BOOTH 803

TREN INC.
Electrically Heated Industrial Equipment
247 LEVERINGTON AVE. PHILA. 27, PA.

If you write maker identify as IEN - 13190

SELF-LUBRICATING BEARINGS AND MECHANICAL PARTS

SINTRLOY — DUCTILOY — SEALALOY

SINTRLOY — Powdered Bronze Bearings are used by the millions in sweepers, refrigerators, washing machines, portable electric and pneumatic tools, medium and light industrial equipment.

DUCTILOY—An extremely tough bearing material that is actually malleable and has a high resistance to shattering. Powdered Bronze Bearings and Mechanical Parts to be used in heavy duty applications where greater strength and shock resistance are required.

SEALALOY—Powdered Bronze Material used for mating rings in rotating mechanical seals to give excellent wearing qualities and shock resistance. Manufactured to your exact requirements.

"National's widely experienced engineering and design departments are always at your service to help you with parts that must be specially designed to their particular application.

NATIONAL MOLDED PRODUCTS, INC.

1945 Mill Street St. Marys, Pa.

If you write maker identify as IEN - 13191

NUMBERALL — CUTS THE COST OF STAMPING NUMBERS!

ROTARY STEEL STAMPS

MODEL N

Single Wheel

3 Rotary Stamps do away with 40 single Hand Stamps. Changes of character are quickly made merely by rotating the Type wheel.

Figure Rotary Stamp
1 2 3 4 5 6 7 8 9 0 X —
(all on one wheel)
furnished in leatherette case.

Letter Rotary Stamps
A B C D E F G H I J K L M &
(on wheel of one stamp)
N O P Q R S T U V W X Y Z -
(on wheel of other stamp)

PRICES

Size	Figure Stamp One Shank One Wheel	Letter Stamps Two Shanks Two Wheels	Letter and Figure Set Three Shanks Three Wheels
1/16	$8.00	$24.00	$32.00
3/32	8.00	24.00	32.00
1/8	8.00	24.00	32.00
5/32	8.00	24.00	32.00
3/16	8.00	24.00	32.00
1/4	10.00	30.00	40.00
5/16	14.00	42.00	56.00
3/8	16.00	48.00	64.00

NUMBERALL STAMP & TOOL CO.
DEPT. IEN, HUGUENOT PARK, STATEN ISLAND 12, N. Y.

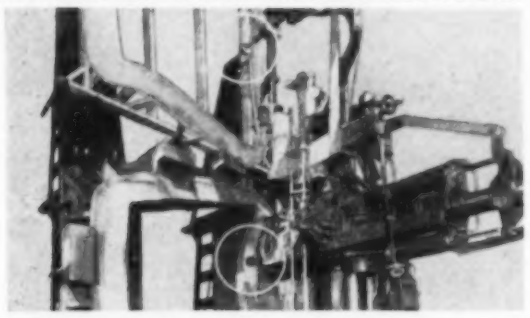
If you write maker identify as IEN - 13192

Turchan

HAS WHAT INDUSTRY NEEDS IN THE TREND TO

Automation

MODERNIZE YOUR PRESENT MACHINES WITH TRACER-CONTROLS



- Turchan controls or machine tools modernize your production with automatic duplicating
- Accuracies to .001" plus finer surface finish
- Reduces production costs 80% to 600%
- Set-up time seldom requires over 30 minutes

Write Us for Information

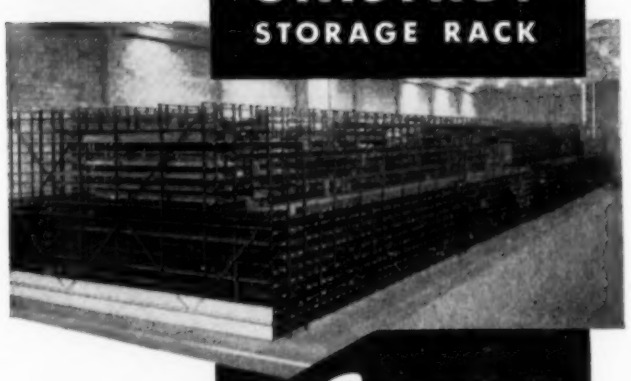
TURCHAN FOLLOWER MACHINE CO.
8259 LIVERNOIS AVENUE • DETROIT 4, MICHIGAN

If you write maker identify as IEN - 13193

DOUGLAS AIRCRAFT'S GIANT

UNISTRUT®

STORAGE RACK



Supports 4700 TONS of BAR STOCK!

Basic components of the UNISTRUT Metal Framing System

Solves complex problem of storing and handling bars, rounds, tubing in limited space. Installed quickly at low cost. Adjustable, re-usable and completely safe.

Inside the Douglas Aircraft Company's El Segundo, California plants are the largest UNISTRUT bar stock racks ever built. The one shown is 132' wide, over 25' deep and 14½' high. With 2376 compartments 9½" high by 12" wide, it has a total load capacity of 9,400,000 pounds!

UNISTRUT racking systems conserve space, cut handling expense and provide a construction material that can be re-used without additional investment. Adjustable UNISTRUT framing requires no drilling, welding, special tools or equipment.

WRITE TODAY...

for FREE copy of UNISTRUT Rack Catalog No. 600

Dept. D11

UNISTRUT PRODUCTS COMPANY
1013 W. Washington Blvd.
Chicago 7, Illinois

THE WORLD'S MOST FLEXIBLE ALL-PURPOSE METAL FRAMING

If you write maker identify as IEN - 13195

ELEVATOR . . Portable power lift rates 750 lb., is battery operated

Source: ECONOMY ENGINEERING CO.
4502 W. Lake St., Chicago 24, Ill.

For utility use

Work Lifter is a new wheel mounted elevator that handles loads to a maximum safe limit of 1,100 pounds. It lifts the load to 5 ft. above the floor on its 24 by 39-in. platform. This platform is covered with a 24-in. square steel plate and a back plate measuring 17 in. in height. The base wheels are 8 in. in diameter, solid rubber swivel design. The fixed wheels, also solid rubber, are 5 in. in diameter. All are mounted on roller bearings. A foot operated floor lock holds the unit in position.

Two batteries are connected in series and are equipped with a charger so they can be plugged into a 110-volt ac. power source when recharging is required. Overall height is 6½ feet. Overall length is 39 inches. The hoist mechanism is hydraulic design. It includes a gear operated pump with "up" and "down" pushbuttons mounted on a 12-ft. cord. It is held by a take-up cable reel for operation from a spot most convenient at the moment.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

"I WISH I HAD"

(Continued from Page 128)

SURPLUS . . "I wish we had a buyer for all or any part of some 10,000 stainless steel radial type hose clamps with floating bridge and screw adjustment. Maximum opening is 1⅜ in. in diameter. The aircraft approved clamps are in storage in Pittsburgh." **IEN W-91**

SURPLUS . . "I wish we had a purchaser for approximately 1 ton of low carbon, polished reed dent wire measuring 0.007 and 0.008 by 0.105 inch. The wire is plain steel. Some of it is cadmium plated. The stock is in storage in Greensboro, N. C." **IEN W-92**

SURPLUS . . "I wish I had a buyer for 300 cast iron wheels measuring 5 in. in diameter, 1½ in. in flange width and ⅝ in. in hub bore. The wheels are new and are in storage in Chicago." **IEN W-93**

SURPLUS . . "I wish we had a buyer for all or a part of our surplus stock of case hardened socket set screws. We have about 470,000, some with slotted screw driver head and some with Allen head with 10-32 thread and 0.15 in. length. We have 78,000 with 3/16 in. No. 18 National Coarse thread by ¼ in. in length with screw driver slot. Some are plated, some are plain. We will supply a detail list on request. The stock is in Milwaukee." **IEN W-94**

SURPLUS . . "I wish we had a buyer for about 2 ton of SAE 4130 steel bar stock, 2 7/16 in. in diameter by 12 ft. in length, in storage in Columbus, Georgia." **IEN W-95**

If you write maker identify as IEN - 13196

Are You One OF THE COMPANIES STILL HANDLING DRUMS AND BARRELS THIS WAY

SABIN *One-Man* BARREL TRUCK *Saves Labor*

It takes only ONE MAN to pick up and move loads up to 800 pounds — when you use a Sabin Barrel Truck. Operation is easy. Run truck up to container, hook on at top and pull back on handle to load the truck. Third Wheel Feature assures better balance and safer movement of loads.

Write for bulletin 48-A

The Sabin Machine Co.
6540 Carnegie Ave.
CLEVELAND 3, OHIO

If you write maker identify as IEN - 13197

NEW! **VALVAIR SPEED KING SOLENOID PILOT OPERATED CONTROL VALVES**

The New Valvair Speed King line is complete — 3-way, 4-way, 4-way-5-port (2-pressure), foot-mounted or sub-base manifold mounted; pipe sizes — ¼", ⅜", ½", ¾", 1". A precedent-breaker in size, weight, speed and endurance. *Get all the facts!*

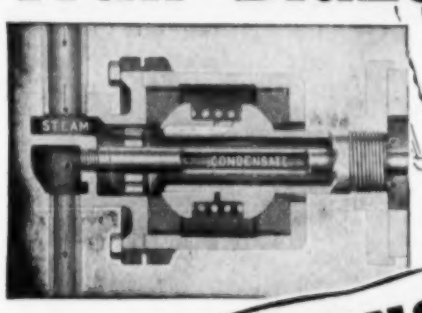
VALVAIR CORPORATION *Affiliate: Sinclair-Collins Valve Company* 949 Beardsley Avenue, Akron 11, Ohio
REPRESENTATIVES IN PRINCIPAL CITIES

Rely Upon Valvair DIVERSATILITY

ASK FOR BULLETIN "Q-11".

If you write maker identify as IEN - 13198

Trail-Blazer . . .



JOHNSON *Rotary Pressure* JOINTS

As a brand new approach to an old problem, the Johnson Joint introduced a form of stuffing box without stuffing, and without any need for oiling or adjusting. Years of service in the textile and paper industries have proved it unmatched for the twin tasks of boosting efficiency and slashing maintenance. Now its unusual possibilities are being utilized on rubber mills, grain dryers, rolling mills and many similar machines. If you're looking for a better way to get steam or liquids in or out of rotating machine parts, get all the facts.

Sizes and special types for all needs; write for literature.

The Johnson Corporation
846 Wood St., Three Rivers, Mich.

If you write maker identify as IEN - 13199

YOU CAN STOP RUNNING WATER IN 5 MINUTES

WITH

STONHARD STONTITE

IT SEALS ACTIVE LEAKS AND WATER-SEEPAGE IN FOUNDATIONS ELEVATOR PITS TUNNELS • DAMS AND RESERVOIRS

Protect Against Foundation Deterioration Eliminates Water Loss — Send for Details

STONHARD COMPANY
Building Maintenance Materials Since 1922
102 Stonhard Bldg., 1306 Spring Garden St., Philadelphia 23

Yes, I want details on STONHARD STONTITE 102/11/53
Name .....
Company ..... Title .....
Address .....
City ..... Zone ..... State .....

If you write maker identify as IEN - 13200

Be Sure with a Matched-to-the Machine

STEARNS MAGNETIC CLUTCH

On many machines a *standard* magnetic clutch or clutch brake does the job. Others require a *special custom-made* unit for most profitable results. Stearns provides *both* with these big advantages:

- Torque range from .4 to 30,000 lb. ft.
- Low inertia — fast, smooth engage and disengage. Split shaft, through shaft, two speed drives, forward and reversing drives — other special applications.
- Quiet and cool running. No metal-to-metal contact, no sparking.
- Automatic or manual control.
- Simple adjustment — no toggles, yokes, shifters.

Write for new literature on Stearns magnetic clutch and clutch brakes. 1054

MAGNETIC EQUIPMENT FOR ALL INDUSTRY

STEARNS MAGNETS

STEARNS MAGNETIC, INC.
626 South 28th Street, Milwaukee 46, Wis.

If you write maker identify as IEN - 13201

A-F LIVE RAIL* "SINGLES" GIVE LOWEST COST MOVEMENT TO PRODUCTION

100% PORTABLE
- Lightest Weight
- Lowest Cost
- Most Versatile
- Stronger • Safer

. . . like an extra crew, *Live Rails* may be quickly, easily moved to any spot and set up as you wish to move any flat bottomed object. No need to pay for rows of needless wheels if just 2 Live Rails will do the job. Available in 5 ft. and 10 ft., straight and curved. Also complete sections . . . Your best wheel-style portable buy. Write for prices — today.

LIVE RAIL*

* Design and Mechanical Patents Pending

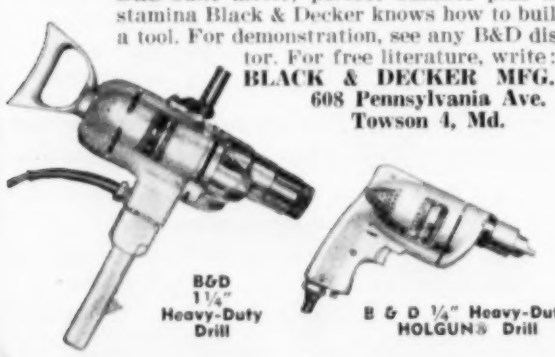
THE ULTRA-PORTABLE WHEEL CONVEYOR

A-F THE ALVEY-FERGUSON COMPANY
344 Disney Street Est. 1901 Cincinnati 9, Ohio
Also Engineers All Types of Conveying Systems

If you write maker identify as IEN - 13202

Black & Decker OFFERS WORLD'S MOST COMPLETE LINE OF PORTABLE ELECTRIC DRILLS

TOWSON, MD.—The wide selection of drills in the complete Black & Decker line includes the right tool for **any** portable drilling job. These models range from ¼" to 1¼" capacity . . . offer a choice of speed, power, and handle arrangement for easiest operation. Whether your job calls for a standard or a heavy-duty model, you get a powerful B&D-built motor, perfect balance plus all the stamina Black & Decker knows how to build into a tool. For demonstration, see any B&D distributor. For free literature, write: **THE BLACK & DECKER MFG. CO., 608 Pennsylvania Ave. Towson 4, Md.**



B&D 1¼" Heavy-Duty Drill

B & D ¼" Heavy-Duty HOLGUN® Drill

LEADING DISTRIBUTORS EVERYWHERE SELL

Black & Decker

PORTABLE ELECTRIC TOOLS

"I WISH I HAD"

This column concentrates upon reader requests for information on sources of supply for products or services or technical advice which we ourselves cannot supply, advises you of new patent-protected products for your possible manufacture, and available surplus of specialized products.

It is published to invite your suggestions and comments, which are forwarded immediately to the originator, just as we will be happy to publish similar problems for you.

ENGINEER . . "I wish I had contact with a steel company needing the services of an industrial engineer for the position of chief or assistant chief. I have had 11 years of experience, primarily in production of steel and am at present employed in this business in Ohio." **IEN W-85**

NEW PRODUCT . . "I wish we had a manufacturer with whom we could operate on a royalty basis to make and sell our 'patent pending' safety wedge pin for aligning and securing plates, pipes to weld or rivet in construction of structural members. The pin is headed in manner similar to a key and carries an integral tapered heel beneath the head. It is pointed on the opposite end. We are located in Philadelphia." **IEN W-86**

NEW PRODUCT . . "I wish we had contact with one or more going concerns in the metal-working industry that could be purchased outright or affiliated with us in our desire to diversify our line of products. We are at present manufacturing automobile hardware in Michigan. We prefer a company located in some small community in Indiana, Illinois, Ohio or Michigan." **IEN W-87**

NEW PRODUCT . . "I wish we had contact with individuals or companies owning proven designs of new mechanical equipment, labor saving devices or accessories that we could manufacture complete in our large iron foundry and sell to industrial warehousing, transportation, agriculture, construction or service activities. Los Angeles." **IEN W-88**

SURPLUS . . "I wish we had a buyer for all or a part of our surplus stock of 283 Chromalox immersion heaters. They are Type RB60 for operation on 115 volts. They rate 600 watts and are assembled with locknut, clamping ring and gasket. We also have 21 Type RB100 for operation on 115 volts with rating at 1,000 watts. The stock is in New Philadelphia, Ohio." **IEN W-89**

SURPLUS . . "I wish we had a buyer for a 300-ft. length of Lamson overhead monorail conveyor chain and track with a 3-hp., 220-volt Caterpillar drive. The motor operates on 3-phase ac. at 15 to 45 feet per minute. The equipment can be seen in operation in Norwich, N. Y." **IEN W-90**

(Please turn to Page 127)

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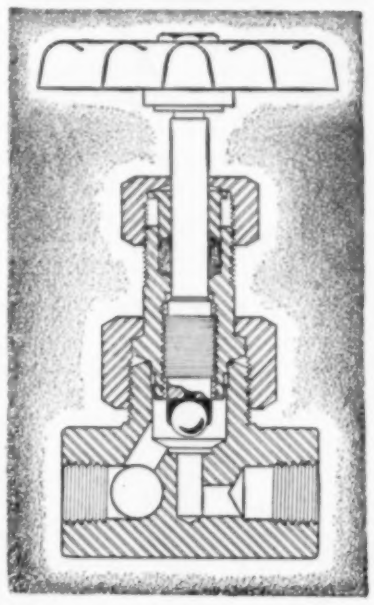

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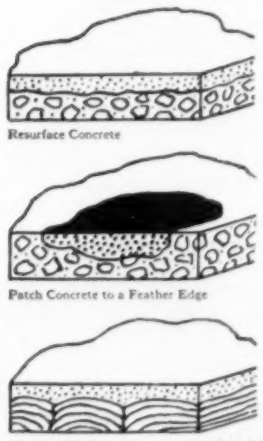

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